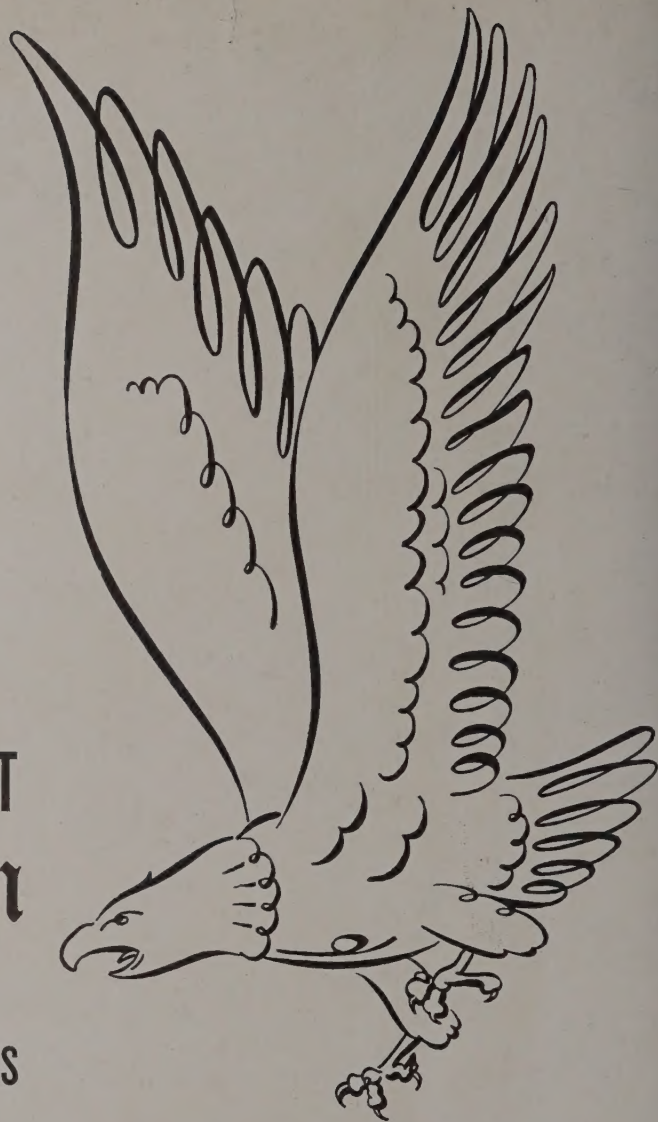


The New

PENCIL POINTS

AUGUST • 1942

THE FACTS ABOUT Von Duprin VICTORY LINE FIRE AND PANIC EXIT DEVICES



Except for minor details, the Von Duprin Victory Line Devices differ from pre-war models only in the use of malleable iron to replace drop-forged bronze and brass parts.

While it is inferior to bronze in appearance, malleable iron will perform safely and surely. It has a tensile strength approximating three-fourths that of drop-forged bronze, and far exceeding that of cast brass or bronze.

We are not using—and we will not use—any of the materials which have been suggested as

lower cost substitutes, such as plastics and cast iron. We believe that any materials which shatter under low stresses and which therefore cannot stand up under emergency demands, completely defeat the purpose for which you buy panic devices.

While Von Duprin Victory Line Devices may not be as handsome as the former types, you can trust them implicitly. **THEY WILL STAND UP . . . THEY WILL DO THEIR JOB . . . THEY WILL LET THE PEOPLE OUT OF YOUR BUILDING!**

VONNEGUT HARDWARE CO. . . . INDIANAPOLIS, INDIANA

Von Duprin Fire and Panic Exit Latches Are Listed as Standard by Underwriters Laboratories, Inc.

THE NEW PENCIL POINTS, published monthly by Reinhold Publishing Corporation at East Stroudsburg, Pa. Publication office, East Stroudsburg, Pa. Editorial and Advertising Offices, 330 West 42nd Street, New York, N. Y. Yearly subscription \$3.00, single copies 50 cents. Entered as second class matter, July 8, 1941, at the Post Office, East Stroudsburg, Pa., under the Act of March 3, 1879. Volume XXIII, No. 8, Dated August, 1942.

STEAM Heats
America—

at war!



LEAN, savage warbirds . . .

60 thousand in 1942 . . .

125 thousand in 1943 . . .

That is America's promise to the Victory Program—and America is going to beat that promise.

It calls for new construction at record-breaking speeds . . . mile-long bomber plants, the largest in the world.

Heating problems presented by the new building program depend for their solution on the heating lessons learned in peace-time.

Fifty years of experience taught America the practical economy of Webster Systems of Steam Heating. Built around all the natural advantages of steam as a heating medium—flexibility, speed, safety. Used successfully in more than 75,000 buildings.

That is why architects, engineers and heating contractors working on war construction depend on Webster Systems of Steam Heating.

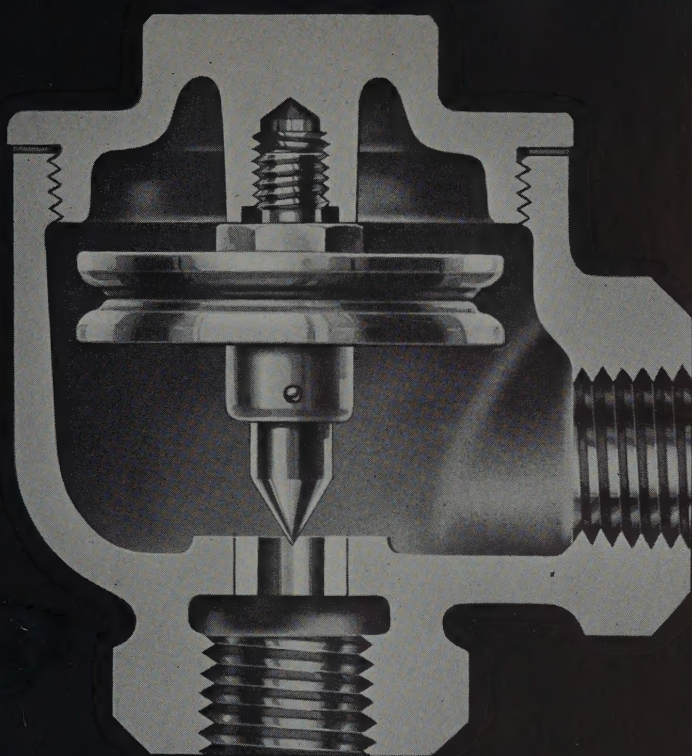
While Ordnance production has the first call on our facilities, we are working day and night to make sure that Webster Steam Heating Equipment is available for use wherever it will help the war effort.

Let our experience serve you now.

Warren Webster & Company, Camden, N. J.
Representatives in 65 principal Cities

Webster
Steam Heating

This is one of a series of advertisements that will tell the public of the part that Webster Steam Heating and the Webster organization plays in the war effort . . . appearing regularly in leading business, industrial, engineering and technical publications.



Webster 702HF Radiator Trap.

To Save Critical Materials

"Old Ironsides"

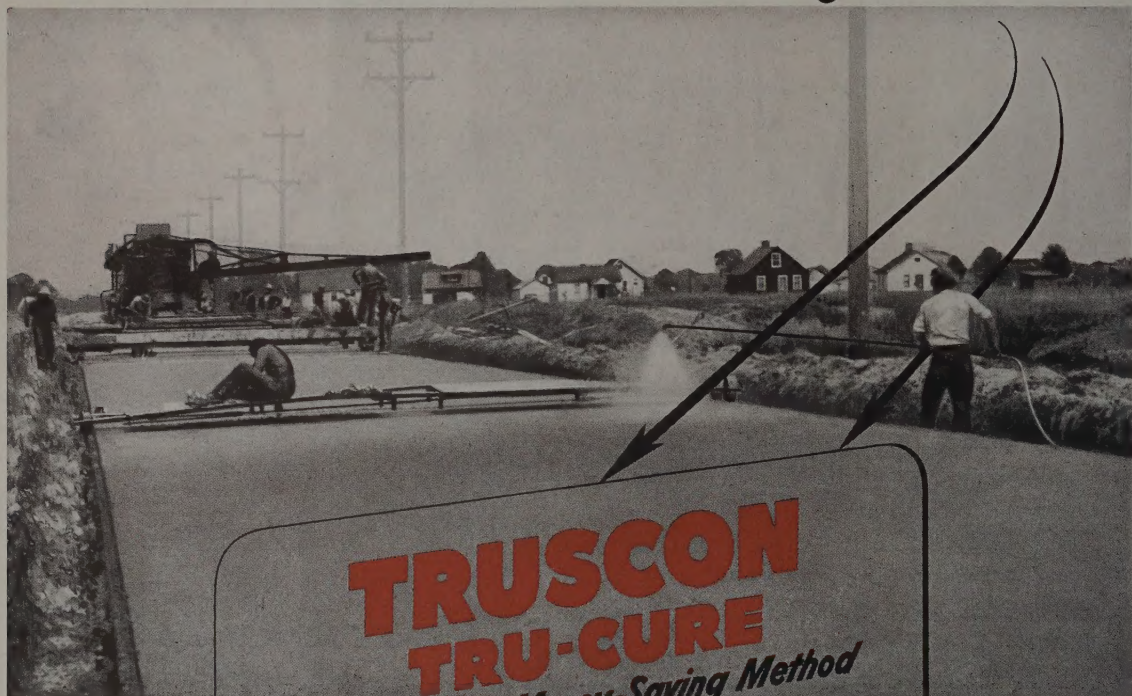
It took months of planning . . . But, Webster Engineers are ready with the "Old Ironsides" line of radiator traps and valves conforming with the simplification program of the War Production Board. Cast iron bodies and bonnets. Female inlet and outlet connections. Three sizes of traps— $\frac{1}{2}$ " for 200 sq. ft.; $\frac{3}{4}$ " for 400 sq. ft.; $\frac{3}{4}$ " for 700 sq. ft. Two sizes of valves— $\frac{3}{4}$ " and 1", both in angle body—with wheel handle standard; with lockshield handle for institutions. The traps employ the time-tested Webster thermostatic element, a double diaphragm of phosphor bronze fully compensated for pressure. The valves use the proven Webster mechanism, fully meeting the specification for spring-retained packing . . . The "Old Ironsides" line uses the minimum of critical materials; saves machine-tool hours for direct war work; keeps steam available for heating war production plants, Army hospitals, etc. "Old Ironsides" traps and valves will be available on appropriate priority.

Essential repairs for existing Webster System installations are available to our customers on A-10 priority, under provisions of Emergency Plumbing and Heating Repair Order P-84 of the War Production Board. Orders should be limited to actual repair needs.

WARREN WEBSTER & COMPANY
CAMDEN, N. J., EST. 1888, PIONEERS OF VACUUM STEAM HEATING

SMASHING ALL SPEED RECORDS

Miles and Miles of Concrete Being Cured with



TRUSCON
TRU-CURE
*The Time and Money-Saving Method
of Curing Concrete*

Curing concrete roads
leading to Ford
Bomber Plant with
TRUSCON TRU-CURE

Advanced technical development to produce better concrete in shorter time to meet war emergency requirements.

96% (or better) water retention in first 24 hours at 100° F. Equivalent to 14-day water cure.

Clear liquid—will not discolor concrete. No cleaning up afterwards.

Eliminates time and cost of handling bulky curing material.

Spray it on and the curing job is done.

No waiting—TRU-CURE is applied immediately after finishing.

Produces stronger concrete—longer wearing—better weathering—corrosion resistant.

Eliminates “crazing” and surface softness.

Approved by United States engineers.

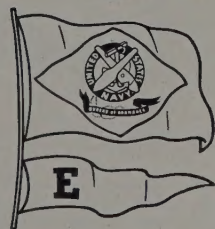
TRUSCON LABORATORIES **DETROIT MICHIGAN**

WRITE FOR LITERATURE to Department P-2 on this advanced method of curing concrete that saves time, labor, material—and does a better curing job.

NOT BY CHOICE ★

BUT BY NECESSITY AND A

PATRIOTIC PRIVILEGE OF DUTY ★



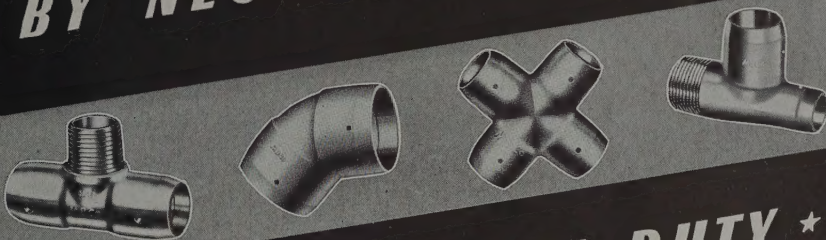
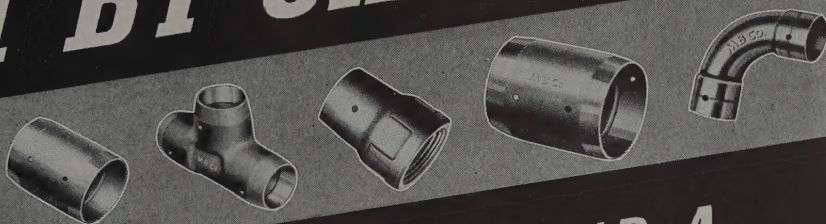
WINNERS OF NAVY "E" AWARD

MUELLER
BRASS CO.
PORT HURON, MICH.

BRASS CO—PORT

MICH—STREAMLINE

AND—GOVT—TYPE M—



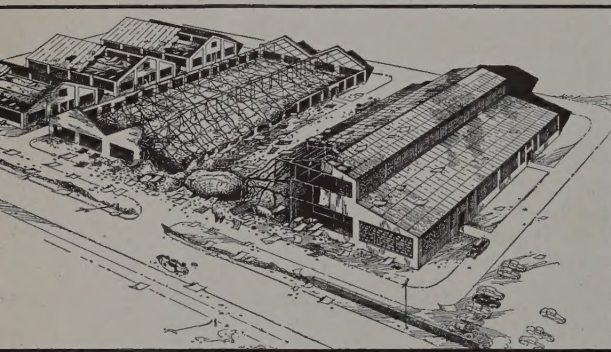
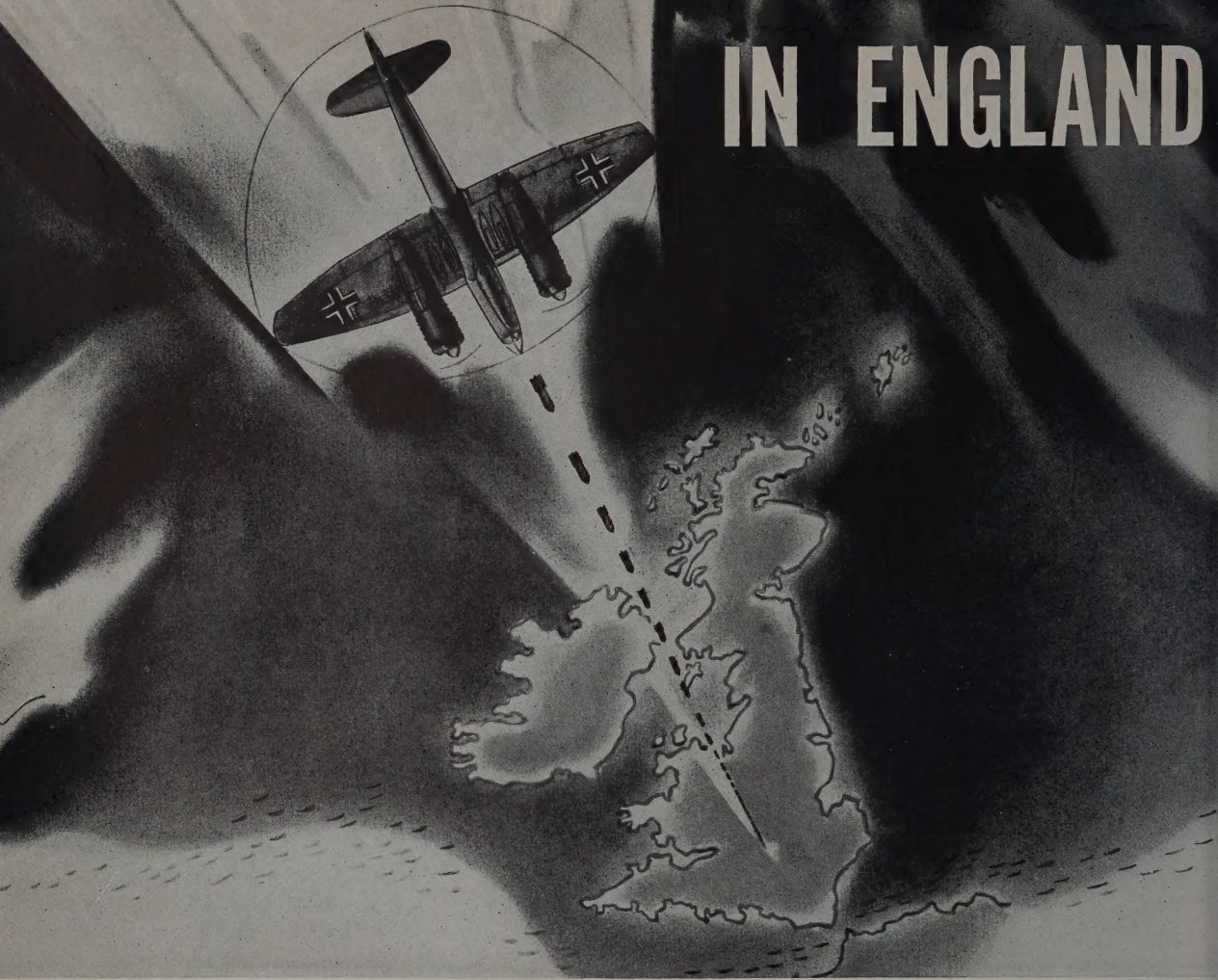
● Up until a few months ago, we still thought, here in America, that we might keep out of this second World War. We wanted to mind our own affairs and go on with the business of building up rather than tearing down—of pursuing peace and prosperity.

We at the Mueller Brass Co. wanted to go on making, among other good products of copper and brass, STREAMLINE copper pipe and fittings for the finest plumbing and heating conducting systems in the world. We didn't want war business . . . we wanted to keep our peace-time business with the plumbers and steamfitters of America.

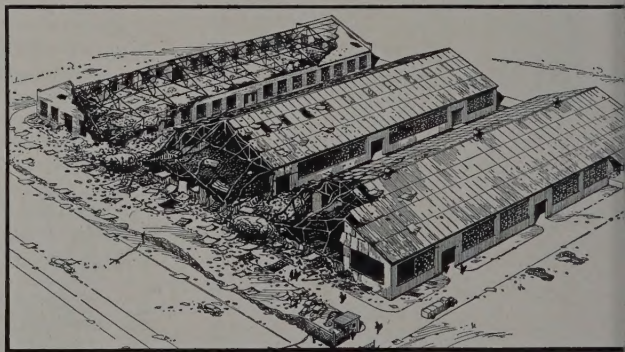
But now our plant is engaged 100% in the production of war materials. Brass and bronze are safeguarding the life of the nation, but after peace is won, we will again manufacture and supply an even better STREAMLINE copper pipe and fittings.

So we are producing those things which Uncle Sam requires of us, with every ounce of skill and energy which we possess, not by choice, but by necessity and a patriotic privilege of duty, to the end that freedom, peace and prosperity be ours once more—and that those very businesses of which we are temporarily deprived be regained in the shortest possible time.

IN ENGLAND



CASE I—ENGLISH BOMBING "On Friday night (date deleted), and mine dropped right down in the roadway between two of the Company's buildings. One of them was roofed with (a fragmenting material), and the other with RPM. The fragmenting material on the adjacent building, and indeed buildings more remote from the landing place of the mine, has been blown to pieces. The RPM covered building, (shown in foreground), has been damaged only for something like 40 to 50 feet back from the gable wall. In many cases, the sheets can be re-used."



CASE II—ENGLISH BOMBING "Bombs fell near a group of factories in (city deleted) and there were three different buildings affected by it. RPM sheeting on two buildings in foreground, came off the blast with flying colors, while other materials just disappeared. The owners were delighted with the performance of two RPM buildings, one seven years old and the other a year old. The roof on the seven-year-old building was practically undamaged. The year-old factory had Robertson Sheetlites in the roof. Only four Sheetlites cracked while 80% of the glass (sidewall sash) has 'gone with the wind."

ROBERTSON PROTECTED

HEY KNOW HOW

RPM can take it!

England has the facts about building materials and their resistance to bombing.

Some can take it. Some cannot.

Some have been disastrously shattered and wrecked. Many had to be completely replaced. One material . . . Robertson Protected Metal (RPM) roofing and siding . . . has, time after time, demonstrated its ability to absorb the shock to a remarkable degree, confine the damage to comparatively small areas and make quick repairing possible.

For instance, when a detonation bomb explodes near a building, the blast wave travels outward like a veritable tidal wave of *pressure*. Then this wave is succeeded immediately by a powerful *suction* wave, which sometimes is even more damaging to roofs and sidewalls.

But, Robertson Protected Metal (RPM) roofing and siding will literally *breathe* with these pressure and suction waves; this, because RPM has the invaluable quality of yielding with the blast, yet returning to its original position. Consequently, the damaged areas of RPM roofing and siding are relatively restricted . . . and quick repairs can be made.

This ability of RPM to "give" and return

to its original position, coupled with its resistance to fragmentation into shrapnel-like missiles, is responsible for its being chosen by so many English manufacturers for roofing and siding their plant buildings. They know from experience.

IT MAY HAPPEN HERE...

If and when bombs do come . . . many thousands of American War Production Plants will be ready with RPM protection. Still more are under construction.

Such a high degree of prefabrication has been achieved in RPM . . . your building roofs and sidewalls are 77% completed when RPM reaches the job. This means an earlier start on War Production.

The Robertson organization is prepared for quick action. Groups of engineers in every section of the country are immediately available for the detailing of needed structures. We manufacture with speed. Construction crews get on the job, and finish it, fast. *What Robertson really makes is time.*

H. H. ROBERTSON COMPANY

FARMERS BANK BUILDING . . . PITTSBURGH • PA.

METAL



H. H. Robertson Co., Farmers Bank Building, Pittsburgh, Pa.

- () Please send me copy of your new book, "Quick is the Word."
- () Please have a Robertson Engineer submit new portfolio covering your Bombing Story.

Name _____ Firm _____

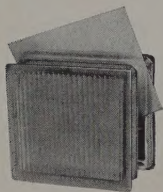
Address _____

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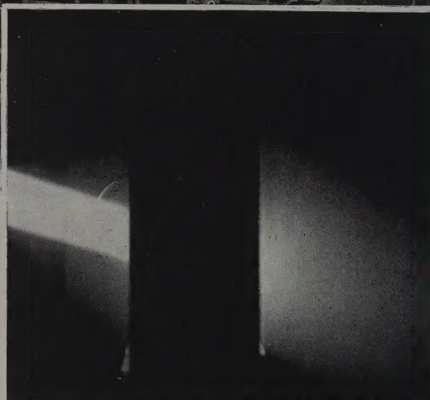


PC BRISTOL LX-75

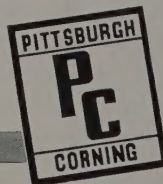
Light-diffusing glass blocks



THIS PC Glass Block is specially designed to accomplish three things: (1) to diffuse and soften transmitted daylight; (2) to decrease objectionable glare; and (3) to reduce solar heat transmission. It is therefore particularly suitable for use in defense plants, such as that shown above, and is being widely used in their construction today. A Fiberglas screen is inserted between the two halves of the block before they are fused together, and this insert, combined with the face pattern of the block, produces maximum light diffusion while sacrificing little in light transmission. And the appearance of a panel of these blocks is unusually attractive. Like all other PC Glass Block patterns, the Bristol LX-75 is immediately available. Complete information, including installation details, will be sent you upon request. Pittsburgh Corning Corporation, 2099-2 Grant Building, Pittsburgh, Pa.



THIS PHOTOGRAPH shows how PC Bristol LX-75 Glass Blocks diffuse transmitted daylight. The ray of light, striking the outside face of the block in concentrated fashion, is diffused by the Fiberglas screen and the face pattern of the block as it is transmitted into the room.



GLASS BLOCKS

Distributed by
PITTSBURGH PLATE GLASS COMPANY
and by W. P. Fuller & Co. on the Pacific Coast

"PITTSBURGH" stands for Quality Glass

SIX THINGS

IMAGINEERING

★
SO MUCH
SO SOON
★

A MAN CAN DO

I MAKE OUR OWN JOB MORE PRODUCTIVE. Every man jack of us can. And that's not preaching, either. It's the point of view we've adopted for the duration at Alcoa. The records we've broken so far, we tell ourselves, aren't nearly good enough. Nor shall we be satisfied with the new ones we set tomorrow.



II MAKE OUR MACHINES MORE PRODUCTIVE. There is a way. We don't know the answer for your equipment. But we have found the answers for many of our own machines which we thought were already up to top output. The resulting step-up is getting planes into the air faster. And it is doing things to aluminum prices. Designers please note.

III PRACTICE PREVENTIVE MAINTENANCE. Keeping present equipment in top condition is easier than getting new. One of the ways our engineers are helping production everywhere is in counseling users of aluminum equipment on means of preventing unnecessary corrosion. The remedy is usually simple; the results priceless. Ask us.

FOUR BUY WAR BONDS AND STAMPS. It's patriotism with self-interest. You finance the war and you help to defeat inflation by refusing to spend for nonessentials. Moreover, you finance yourself to take advantage of all the revolutionary new products that are going to be ready to buy when the war is over. Buy today to keep your own wheels turning tomorrow.

IMAGINEERING DREAM A DREAM EVERY DAY. Remember that the kind of peace we all want depends on how many jobs we think up for the boys coming back. New jobs come out of new things to make. Let your imagination soar; engineer it down to earth; then file the plans away, ready for the day when. That's Imagineering! Selfish suggestion: think seriously in terms of Alcoa Aluminum.

Sixth and last KEEP THE OLD CHIN UP. Whatever the news, whatever the temptation, keep the chin up. The boys out there deserve it. Whether it's rationing, or restrictions, or whatever, let them watch us being soldiers about that.

Aluminum Company of America, 2198 Gulf Bldg., Pittsburgh, Pa.

ALCOA ALUMINUM



THE CELOTEX CORPORATION

CELOTEX
INSULATING CARBON BRICKS

GENERAL OFFICE
PALMOLIVE BUILDING
915 NORTH MICHIGAN AVENUE
CHICAGO, ILL.

PLANT
NEW ORLEANS, LA.

June 17, 1942

Mr. Philip H. Hubbard
Vice President and Publishing Director
Pencil Points
330 West 42nd Street
New York, New York

Dear Mr. Hubbard:

I have just read the editorial, "New Beginning", in your June issue.

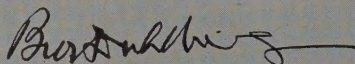
There is, as you point out, only one certainty about our post-war world. It will be a world strange and new to our eyes and minds. Man's work, his play, his demands for comfort and security will not be those of 1941. He will expect and exact a richer return from life than he has ever before received.

It will be the job of the architectural profession and the building industry to deliver a sizeable share of this richer return. For all forecasts, all economic and social planners agree that homes and building construction must be a basic vehicle for the transition from war to peace and for the better world that can be created.

Note that I say can be. For this better world will not build itself. We can be crushed beneath the ruins of our old economic and social systems. We can lose all the freedoms and all the hopes we now fight to preserve.

To win the peace will require the leadership of many men of courage and resourcefulness. Your reshaping of Pencil Points to help your profession train for this task is deserving of commendation.

Yours truly,



BGD fb

Typical of the many letters of comment received from our readers regarding the editorial approach of THE NEW PENCIL POINTS is this one from Bror Dahlberg, president of The Celotex Corporation

The redirected editorial approach, the appearance, and the contents of THE NEW PENCIL POINTS is daily bringing across the Editors' desks the expression of our readers' opinion. Presented below are selections of excerpts from the many letters received since PENCIL POINTS announced its new editorial policy in the May issue.

Twenty-two years have passed since you started out as a starry-eyed zealot to espouse the cause of the architectural masses. Now you are quite middle-aged and getting dignified. Your

brave assertions, coupled with aspirations of a change of name and of original status, are also indicative of advanced age, or "change of life."

Economically, has it occurred to you that numerically the advanced age group is fewer, and will be increasingly so; also, that most of the oldsters have suppressed yearnings for the impetuous candor and drive of youth?

Finally—architects, draftsmen, and students are essentially pencil pushers; their very existence depends on pencil points. G. A. RACKELL, Architect
Nutley, N. J.

Significant

"We Believe" is the most significant and the most exciting statement of purpose that has yet come out of any architectural publication of any architectural society.

It is significant because it places the profession of architecture solidly on the base of service to a richer life for all; because it sees planning in terms of humanizing purpose, and techniques as a means to a human end.

It is exciting, because it constitutes a challenge to every architect and every association of architects to rise to the task of building the new America which it sets forth.

We have the materials; after the war we shall have the man power—the demobilized army—crying to be used; it needs only the imagination and knowledge of architects and planners to create such progress in American life as has never been known before.

To give form to this new and richer life that is to be, is a task to excite the enthusiasm of the most blasé. And it is a task for the world's architects. If they can but perceive it, and rise to it, then "taps" for the architectural profession will be impossible, and the "reveille" will usher in the dawn of the brightest day we have ever known.

TALBOT F. HAMLIN
New York

*

Challenging

The first number of THE NEW PENCIL POINTS promises to take an interesting direction. We like its challenging aspect. We particularly should like to express our appreciation of "The New Schools," by Talbot F. Hamlin. We believe the statement in bold-face type, "complete acceptance of the condition of the problem as the elements of the design" (*Ed. note—p. 84, June issue*) is the basis of good school planning. The modern architect must accept this principle, as emphasized in the article, instead of bringing the solution to the problem. Not only must architects take this viewpoint but they must convince their clients that charm, prettiness, picturesqueness imposed on the building do not guarantee architecture. We think the article expresses the aims and activities this Division has fostered in California for the past eight years.

The problems of securing adequate natural lighting dictated the classroom cross-section in the Ross School, and not a mere desire to improvise. Even if our attempts are crude we believe an

(Continued on page 10)

SPECIALIZED EQUIPMENT



For Out-of-the-Ordinary Foundations

No two jobs are exactly alike, of course. But occasionally a problem of subsurface support or complex concrete construction arises that is entirely different—much out of the ordinary. Raymond has exceptional facilities for supplying the special equipment required to do the job promptly and economically. In more than four decades of world wide experience covering more than 10,000 jobs, Raymond has developed special types of land and water equipment to meet unusual pile driving and construction requirements. And the Raymond organization—executives, engineers, superintendents and workmen—will be found competent to solve such problems as may arise. In fact there is hardly a job so 'different' that past Raymond experience does not point the way to the proper and economical procedure.

THE SCOPE OF RAYMOND'S ACTIVITIES includes every recognized type of pile foundation—concrete, composite, precast, steel, pipe and wood. Also caissons, construction involving shore protection, ship building facilities, harbor and river improvements and borings for soil investigation.

RAYMOND

CONCRETE PILE COMPANY

Branch Offices in Principal Cities

140 CEDAR ST., NEW YORK, N. Y.

LETTERS from READERS

(Continued from page 8)

honest solution promises a more hopeful development than scattering the "charm" elements at appropriate points. When one thinks the Greek temple evolved through some 500 years we should not be discouraged if our efforts are not always the suavest.

DOYT EARLY, *Architect*
California Department of Education
Division of Schoolhouse Planning
Sacramento, Calif.

C. GODFREY POGGI, *Architect, Elizabeth, N. J.*, discusses at length why the profession of architecture is so far down the scale in public opinion.

You certainly hit the nail on the head when you discovered that there is definite opposition to Architects within Government Bureaus and particularly in the War and Navy Departments. (I should like to add—and throughout the country generally.) Architects now appear to be looked upon as "the

fifth wheel to the cart." They are not even granted the courtesy of being dubbed the spare tire. The profession at large is so far down the scale in public opinion that it is a question if, as a profession, it will ever become rehabilitated. Why?

In your May editorial you mention two possible reasons: "Uncomprehension of the nature of the Architect's work and special skill, or in unfortunate and unpleasant past experience."

To my mind the latter reason is the one and only reason. I am quite confident that the intelligent element of the public is fully aware of the necessity of the Architect's special training and skill, particularly in the art of design. When a client employs an Architect he does so expecting to derive the full benefit thereof. He also expects, and naturally assumes, that the Architect is fully capable of causing the building he has designed to be properly constructed, but in many instances the client meets with unfortunate experiences in this connection. The client occasionally finds that, for the sake of symmetry or some other cultural reason, the Architect has seriously sacrificed valuable space, wasted material, and created a structure which, though beautiful, is nevertheless a financial headache from the standpoint of operation and maintenance.

Some thirty-odd years ago I called attention to the fact that the new crop of Architects then entering the field was taking on commissions far beyond its ability to carry out. Most of the youngsters just out of college were chock full of enthusiasm along the lines of design. They proved to be very good designers and, by comparison with their predecessors, were very excellent draftsmen, but lacked experience. Many, through family influence and connections, obtained important commissions and, in most instances, made a structural failure of their jobs. The plan was beautiful on paper, everything was just as they were taught at school, but they did not have the field experience necessary to know how to combine the beautiful with the practical.

That group and many groups since has aggravated the present unfortunate situation. Their egotism and self-sufficiency have caused them to "rush in where angels fear to tread." The public now looks upon us as capable only of creating the beautiful. Now that we are at war (and there is nothing beautiful about war) there is no place for us in its atmosphere. In short, the profession has fallen from grace; that grace which at one time combined the beauty of design with the practical application thereof.

(Continued on page 12)

FOR THE DURATION

Sedgwick Dumb Waiters and Elevators

SAFE • DEPENDABLE • ECONOMICAL

Electric and Hand Power

PRIORITY ORDERS ONLY

SPECIFY HAND POWER

Wherever Possible

Just as many Architects, Engineers and Draftsmen have already adjusted their technical knowledge to war time conditions and National Service, so Sedgwick has been applying its engineering and production skill to meet changing needs in lift requirements. Many unusual problems have already been met, many will be met, to provide the type of equipment which will best serve special and critical demands. In order to conserve motors and metals, even though permissible under priority control, we suggest you

SPECIFY Hand Power SEDGWICK DUMB WAITERS

for food service, supplies, garbage disposal in canteens, mess halls, hospitals and other institutions, and for any special needs where loads do not exceed 500 lbs.

SPECIFY Hand Power SEDGWICK ELEVATORS

for handling freight and other heavy or bulky loads, for movement of patients and staff in hospitals, for mortuaries, and for any special needs where loads range up to 2,000 lbs.



We invite consultation and offer fullest cooperation in connection with any problem related to vertical lifts.



SEDGWICK MACHINE WORKS

164 West 15th Street Established 1893
Member of Producers' Council, Inc.

New York, N. Y.



SCRAP WILL WIN

**THROW YOUR
SCRAP INTO
THE FIGHT
!**

IN every shop, every store, every home, there's a lot of junk. It is useless where it is, but mobilized, it can help win the war.

Old iron and steel, brass and copper, rubber, even burlap, paper and grease, are badly needed in huge quantities by American war industries.

It is the immediate duty of every individual to do his part in the drive to mobilize scrap. Keep it flowing through regular scrap collection channels so it can be processed into war material.

This is the way that your cooperation with the all-out effort of the steel industry can insure earliest possible Victory. **THROW YOUR SCRAP INTO THE FIGHT.**

THE YOUNGSTOWN SHEET AND TUBE CO.
Youngstown, Ohio

LETTERS from READERS

(Continued from page 10)

Then, too, the public lost confidence in us, especially in the matter of submitting competitive plans. When the average business man learns that a half dozen or more Architects are gambling and risking the loss of \$500 to \$1000 or more to get his job, he naturally concludes that either there is a fortune in the business or that all Architects are crazy and impractical.

When it becomes known that a concern or individual contemplates building he is deluged with applications from Architects containing a great variety of propositions from 6 percent up and down—mostly down. The layman concludes that either the competition is very fierce or that there is no morale and no unity in the profession.

There are so many unfortunate elements in our practice which have, in the past several years, broken down public confidence in us, that it would be most difficult at this late date to arrive at a determination as to what

course should best be followed to correct the evil.

Before any improvement could possibly take place, however, there must first be a complete unity within the profession and a thorough house cleaning, including the elimination of the egotistic, self-satisfying, self-seeking superciliousness and false impression of individual ability.

"War is hell." Whether in reality or within our ranks, the result is always the same.

*

How Architects may aid in the Rubber Salvage Drive is pointed out by K. W. ROSENBERG, of the architectural firm of deYoung, Moscovitz & Rosenberg, New York.

During the course of housecleaning our office, we were surprised at the amount of old rubber floor samples, and miscellaneous rubber, which have been laying around here for years. Upon collection of all this we found at least 25 to 50 pounds of rubber, which we turned over to one of the local service stations. If architects throughout the country collected all their rubber samples and made them available for the war effort, tons of rubber could be reclaimed. Not only architects, but contractors and sub-contractors have samples of rubber in their offices which if turned in to the authorities, would aid the war effort.

*

G. HARMON GURNEY, *Architect, New York*, calls the editors to task for failing to give proper architectural credit to the presentation of a *Business Block* discussed by TALBOT HAMLIN on page 90 of the June issue.

There appeared in the June issue of PENCIL POINTS two photographs and a criticism of a business building on Lexington Avenue. This building was listed as having been designed by the late *Thomas W. Lamb*.

As Mr. John McNamara and myself were associate architects with Mr. Lamb on this particular project, I feel that our names should have been mentioned in connection with the article. We are both capable of taking the criticism as well as the praise in the printed matter.

COLOR STYLING

The ingenious use of color to lend variety to the war workers' community, *Acquackanonk*, published in the July issue of THE NEW PENCIL POINTS, was devised by Frederick H. Rahr, Color Consultant, who collaborated with the Architect, Henry S. Churchill.

HERMAN NELSON hiJet HEATERS INSTALLED AT WESTOVER FIELD ARMY AIR BASE



Fifty Herman Nelson Blower-Fan and ninety-five Propeller-Fan Type hiJet Heaters have been installed

in the hangars of Westover Field Army Air Base at Chicopee Falls, Massachusetts. These heaters are large enough to heat 550 average size homes.

Herman Nelson hiJet Heaters have been installed in hundreds of buildings at Air Bases, Navy Yards, Arsenal, Camps and Forts vital to National Defense. The complete line of hiJet Heaters includes Horizontal Shaft Propeller-Fan, Vertical Shaft Propeller-Fan, Blower-Fan and De Luxe Types. There are 263 models, sizes and arrangements, so you can select the exact unit to solve practically any heating problem most satisfactorily and economically.

AUTOVENT FANS AND BLOWERS

have also been installed in many Defense Projects. This quality equipment is manufactured by the Autovent Fan and Blower Division of The Herman Nelson Corporation. All Autovent Products are tested and rated in accordance with the Standard Test Code as established by the National Association of Fan Manufacturers and the American Society of Heating and Ventilating Engineers.

Autovent
Type HB
Blower



THE HERMAN NELSON CORPORATION
MOLINE, ILLINOIS

MANUFACTURERS OF QUALITY HEATING, VENTILATING AND AIR CONDITIONING PRODUCTS

S. S. Kresge Company chose Marbleized Color No. 121 for this attractive floor of J-M Asphalt Tile in their Evanston, Ill., store.



*For Beauty that
can take a Beating . . .*

Specify the floor with the lasting
qualities of ASBESTOS and ASPHALT

HERE IS ONE SPECIFICATION you can write today, *without the use of critical materials.*

It's a floor of Johns-Manville Asphalt Tile . . . a floor of eye-catching beauty . . . and one which offers advantages of economy and durability that are of particular importance in these times.

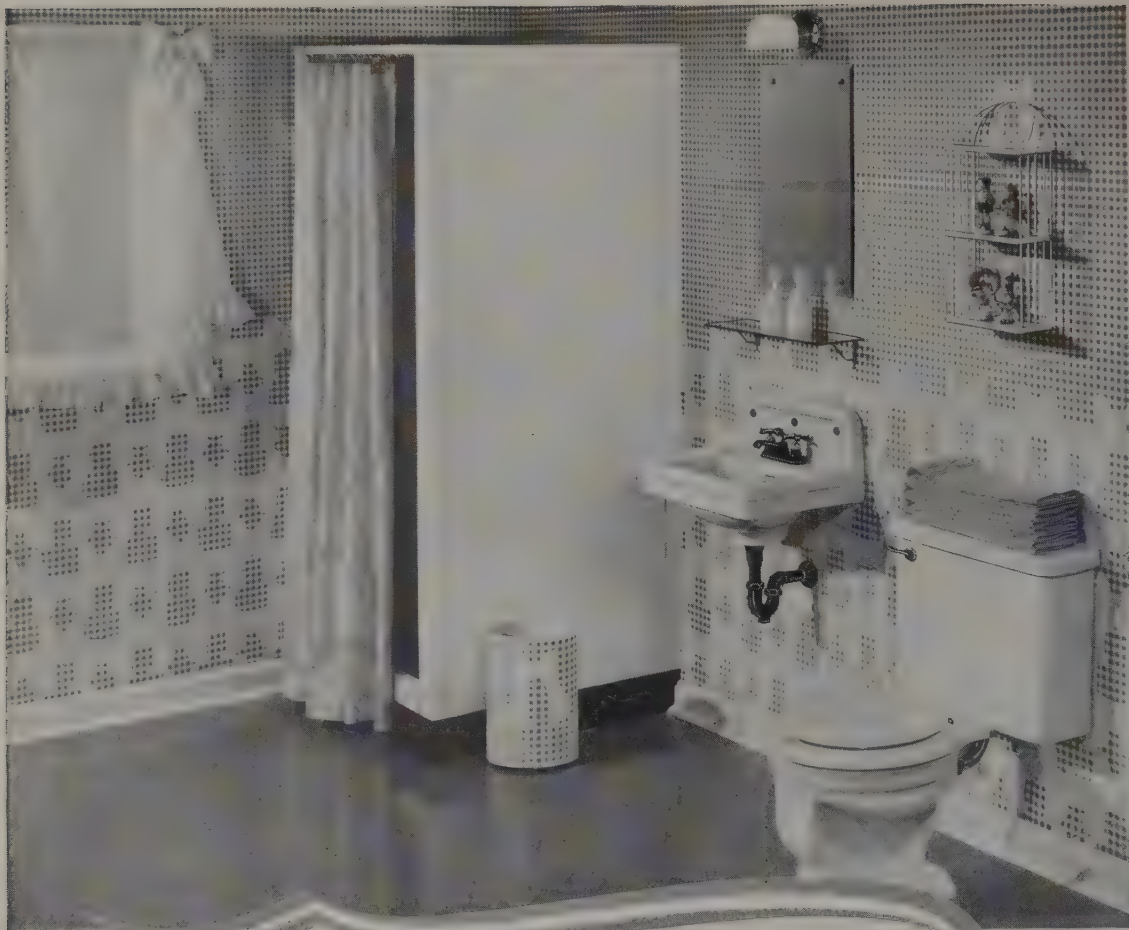
From the attractive colors available, there is practically no limit to the number of good-looking floor patterns you can design with this modern resilient flooring. Or you can create a floor of distinctive appearance using only a single color, as was done in the store shown above.

And here is beauty that can really take a beat-

ing! Because it is made of asbestos and asphalt, two of the most durable materials known, J-M Asphalt Tile combines in itself the lasting qualities of both. Year in and year out, it stands up under the heaviest foot traffic—requires little if any maintenance except ordinary cleaning. And J-M Asphalt Tile is low in first cost, too—a feature that enables you to specify it wherever a decorative flooring material is required.

YOU'LL FIND stimulating suggestions for decorative floors for stores, restaurants, offices, home recreation rooms, etc., in our new full-color brochure, "Ideas for Decorative Floors." For your copy, write Johns-Manville, 22 E. 40th St., New York, N. Y.

Johns-Manville ASPHALT TILE FLOORING

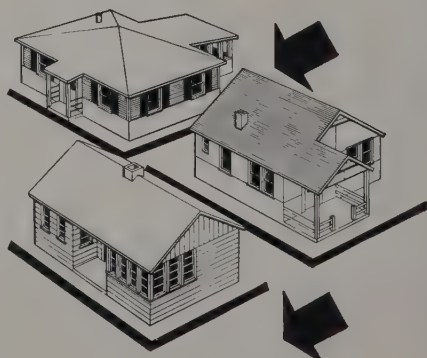


A CRANE BATHROOM LIKE THIS *For Homes...* LIKE THESE

HERE is a new Crane bathroom group especially designed for low-cost defense homes. Crane quality throughout, it presents the minimum use of critical materials. The lavatory is of vitreous china with faucets and waste pipe of cast iron. The closet is the efficient *Neuton*, made of vitreous

china and the shower stall uses less than 25 pounds of metal.

In planning defense housing, you will find the new Victory Group is priced to meet cost requirements and government specifications. Consult your plumbing contractor or call the Crane Branch nearest you for complete information.

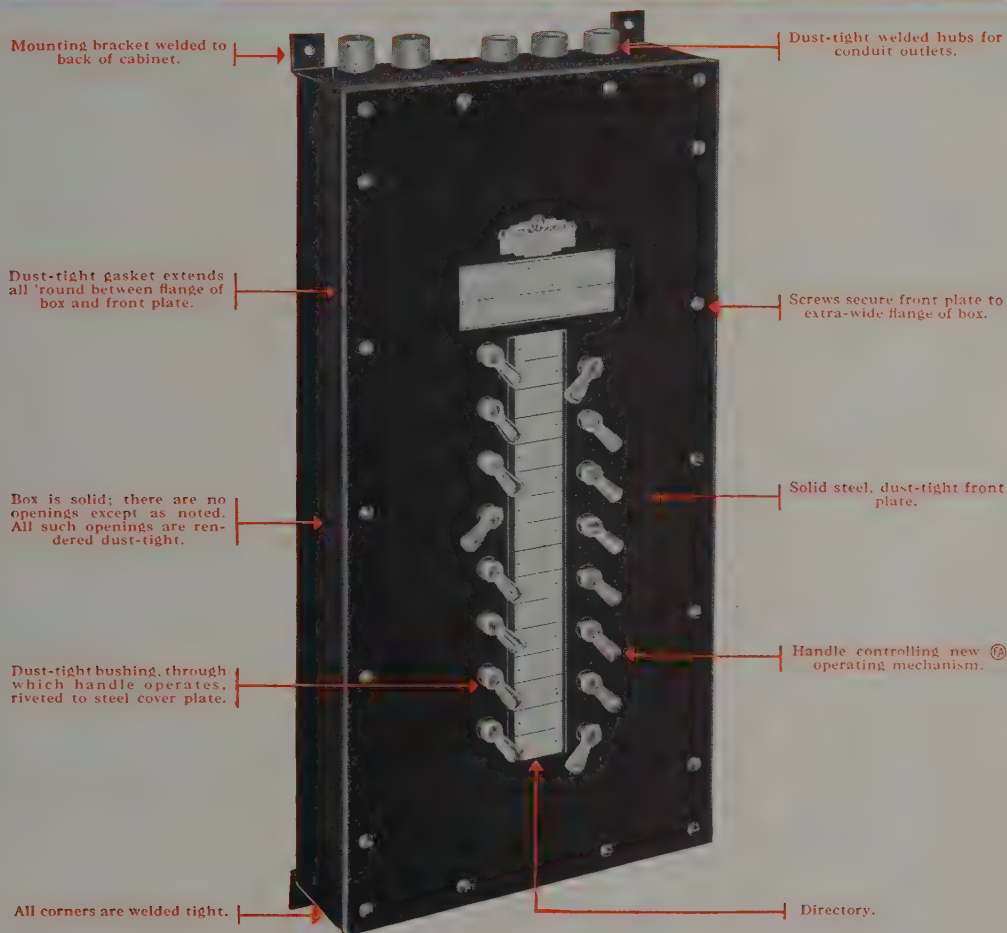


CRANE

CRANE CO., GENERAL OFFICES:
836 S. MICHIGAN AVENUE, CHICAGO
PLUMBING • HEATING • PUMPS
VALVES • FITTINGS • PIPE

NATION-WIDE SERVICE THROUGH BRANCHES, WHOLESALERS, PLUMBING AND HEATING CONTRACTORS

The New **FA** Dust-tight Panelboard for safety in dust-laden atmospheres



This panelboard is especially designed for use in shell loading plants, coal mines, coal storage rooms, flour mills and other places where dust is a hazard. It is approved by Underwriters' Laboratories, Inc., for "Class II, Groups F and G, Hazardous Locations," covering atmospheres containing carbon black, coal or coke dust and grain dust.

Instead of the usual steel front, consisting of trim and door, this panelboard has a solid steel front plate, gasketed all 'round, and secured with screws to the extra-wide flange. It is further rendered dust-tight with welded hubs for conduit outlets, welded box-corners, and handle bushings riveted directly

to the steel cover plate. The brackets are welded at the back.

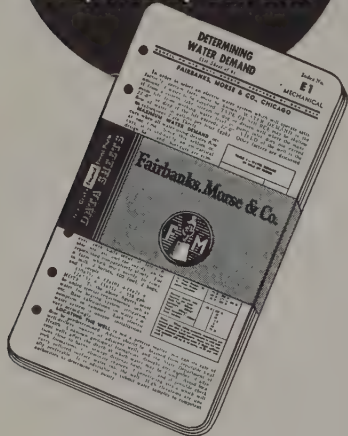
The circuits are externally operable by a mechanism of new **FA** design. The handles operate through the dust-tight bushings and engage the regular handles on the circuit breakers inside the cabinet. ON and OFF positions are indicated on the front of the cabinet.

The panelboard is of the circuit breaker type, with either **FA** Type AC or **FA** Dublbrak circuit breakers; also other types of lighting branch-circuit circuit breakers . . . Capacities: 50 Amperes or less, for 3 wire, single phase, or 4 wire, 3 phase mains, with lugs only. Available with 4 to 42 circuits . . . Frank Adam Electric Company, St. Louis, Missouri.



FREE! Water System DATA SHEETS

Prepared by Don Graf



• What capacity will be required of a water system for this home or farm? Which of four pump types will serve best? Can the pump be placed off the well rather than directly over it? What size should the pressure tank be? What are the space requirements of the various systems? The electrical specifications? The lift limits? The effects of altitude and well depth?

You'll find the answers to all these and other questions about water systems on six recently published Don Graf data sheets. Send for a set. They're free.



Clip the Convenient
Coupon

Fairbanks, Morse & Co.,
Dept. H188
600 S. Michigan Ave., Chicago
Please send me my free set of six Don Graf
data sheets on water systems.

Individual.....
Company.....
Address.....
City.....State.....

FAIRBANKS-MORSE & CO.
Manufacturers of Precision
Equipment for 112 Years

URGES NEW BUILDING CODE

Adoption of a new emergency building code which would stipulate the maximum of materials to be used for any objective, rather than the minimum, was urged by Lieutenant Commander John H. Brachts, U.S.N., in a recent report to the Producers' Council. All existing codes, including federal, state, and municipal, should be set aside for the duration of the war, the Commander asserted.

New specifications for the working stresses to be employed in designs where critical materials are permitted are badly needed, according to Commander Brachts, who pointed out that present working stresses could, with reasonable safety, be raised from 20 to 40 percent in various loading cases.

Utilization of earth structures wherever possible, and of timber piles in place of reinforced concrete, and the avoidance of purely structural designs are listed as part of a program for planning and designing more or less permanent structures with a minimum of critical materials.

WHERE ARE THEY?

Unsolicited material returned recently to several contributors by the editors of THE NEW PENCIL POINTS has been returned by the post-office since it had no record of their whereabouts. In an effort to locate these contributors, the editors are printing the contributors' names and addresses, and request the readers to notify the magazine should they know the present address of the following men:

LeRoy Grumbine, 1216½ Trenton St., Los Angeles, Calif.; Ernst Jonson, 126 W. 12th St., New York; and H. Van Pelt, 513 Crescent St., Grand Rapids, Mich.

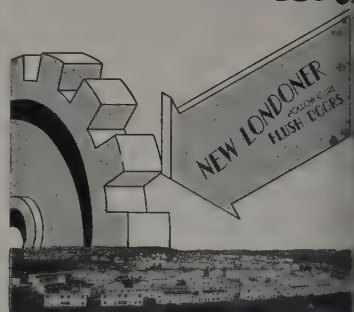
The editors also have on hand an article, "Modern Architecture—A Revaluation," which the author (unknown) may have upon request.

The contributions will be held until August 15, after which they will be disposed of.

NIGHT COURSES

For the first time in its history, the School of Architecture of Columbia University, New York, will provide an evening curriculum leading to the degree of Bachelor of Architecture. The evening courses will be inaugurated in the fall, and will parallel those given in the day school in subject matter. Two years of evening classes will be required to cover the number of hours included in one year of day classes. Students will be required to transfer to the day school for their final year of study.

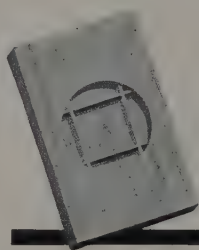
Price-Geared



Middletown Housing Project. Geo. Howe, Architect

FOR Defense BUILDING!

The fact you are designing or building small homes, or home-units in defense areas, should be sufficient reason for using New Londoner Hollow-Core Flush Doors. New Londoners have exceptionally brilliant service records everywhere — records that reveal low cost-per-years-of-service. This is the type of door you will want to recommend so be sure to get the story of New Londoner Hollow-Core Flush Doors. You'll find it interesting as well as enlightening. Send for this information today.



**AMERICAN PLYWOOD
Corporation**
NEW LONDON, WISCONSIN

DRY DEVELOPMENT GIVES YOU VERSATILE PRINT MAKING



AS THE DEMAND INCREASES for faster and faster war production—so the need for dry developed printmaking becomes more and more important. Because dry developed printmaking is *versatile* . . . and you are able to quickly make prints of engineering drawings, charts, graphs, letters and maps.

Dry developed prints are made by the Ozalid Process—the direct method of turning out dry, positive-type whiteprints merely by feeding Ozalid sensitized material along with an original drawing into an Ozalid whiteprint machine. In two quick steps—exposure and dry development—the prints are finished!

Here's how versatile the process is: With standard Ozalid materials you get prints having blue, black or maroon lines on a white background, enabling you to assign different color line prints to various departments. Transparent papers, cloth and foils produce intermediate originals which are made just as whiteprints, without additional equipment. All sensitized material comes in either cut sheets or roll stock.

Whiteprints are made with amazing speed — as fast as 20 feet per minute in the largest Ozalid machine. Speeds of other models are geared to suit medium and small reproduction needs. If you are not already using the Ozalid Process, write today for literature describing the many advantages of dry developed printmaking.

SPECIFY **Ozalid**
WHITEPRINTS

BASIC FACTS ABOUT PRINT MAKING YOU SHOULD KNOW

ALL OZALID WHITEPRINT MACHINES ARE SINGLE COMPACT UNITS, EASILY INSTALLED IN ANY DRAFTING ROOM, PLANT OR OFFICE . . . even the largest machine occupies only 23 square feet of floor space!

The machines are modern in design—silent in operation—give clean, efficient service. And because dry development is employed, there are no liquid baths . . . no plumbing connections . . . no cumbersome drying equipment.

Ozalid machines are expertly built, able to stand the constant use you would require of them. Their exterior is baked gray enamel, resistant to stains and normal scratches.

This is the sixth of a series of facts on modern printmaking. Watch for Fact No. 7.

OZALID PRODUCTS DIVISION
GENERAL ANILINE & FILM CORPORATION
JOHNSON CITY, N.Y.

Ozalid in Canada • HUGHES OWENS CO. LTD., Montreal

CAMOUFLAGE COURSES

University of Pennsylvania

Beginning July 6, an intensive four-week course in camouflage is being given in the School of Fine Arts of the University of Pennsylvania, Philadelphia, Pa., with the cooperation of Pratt Institute, and under the guidance of the Office of Civilian Defense and the Engineer Board of the United States Army.

The course, intended primarily for architects, landscape architects, engineers, and other professional men in the Philadelphia area, is being given to provide the community with adequately-trained men to plan and supervise the execution of camouflage in case of an emergency. Certificates of Proficiency will be issued to those who satisfactorily complete the course.

Pratt Institute

A professional course in industrial camouflage, under the auspices of the Office of Civilian Defense, began on July 20 at Pratt Institute, Brooklyn, N. Y. The course, conducted under the direction of Pratt's Department of Architecture, was opened to Architects, Engineers, Landscape Architects, and other qualified professional people. Emphasis is being directed in the course to the protection of community utilities

and manufacturing plants in areas vital to the country's war industry.

A certificate of proficiency will be issued jointly by the Office of Civilian Defense and Pratt Institute to those who complete the five-week course satisfactorily.

The fifth series of lectures on aerial bombardment protection, sponsored by the U. S. Office of Education, began on August 4 at Pratt. The course, open to Architects, engineers, and others in charge of design, construction, and maintenance of buildings, utilities, plants, and public works, is a five-week one.

New York University

To meet an anticipated need for camouflage experts, the New York University College of Engineering, New York, cooperating with the Office of Civilian Defense and the U. S. Army Engineer Board, began a five-week intensive course in industrial camouflage on August 3. The program is under the direction of *Professor William A. Rose*, expert in camouflage and aerial bombardment protection.

The course will cover the basic theories of camouflage, the applications of camouflage, camouflage materials and techniques, blackouts, smoke and fog, analysis of industrial areas, interpretations of aerial photographs,

and the psychological aspects of visual perception.

Professor Rose is co-author of "Aerial Bombardment Protection," a widely used textbook in that field.

CAMOUFLAGE EXHIBIT

The Museum of Modern Art, New York, has announced the following schedule of its traveling exhibition "Camouflage for Civilian Defense": *August 11-September 9*—Museum of Modern Art, New York; *October 5-26*—Columbus (Ohio) Gallery of Fine Arts; *November 8-29*—University of Kansas, Lawrence, Kans.; *December 7-28*—Philbrook Art Center, Tulsa, Oklahoma; *January 15-February 14, 1943*—Chicago (Ill.) Art Institute.

To make the Museum and all of its facilities more useful to the busy wartime public, a new schedule of hours was recently announced. The Museum is now open daily from 12 noon (1 p.m. on Sunday) to 7 p.m.

PERSONALS

William F. R. Ballard, *Consultant Architect* to the New York City Housing Authority, resigned recently to enter the Army Air Corps, Intelligence Branch, as a first lieutenant. Mr. Ballard was Chief Architect for the Vladeck Houses project, and Consulting Architect for the Fort Greene Houses project.

Louis A. Brown, Jr., *Architect*, was recently appointed Chief of the Subcontracting Unit of the Contract Distribution Branch at 462 Indiana Ave., Washington, D. C., according to a WPB announcement. He has closed his architectural offices in New York and Charlottesville, Va.

Miss Elizabeth Coit, *Architect* and authority on low-cost housing, is currently conducting a course in home repairs at the office of the American Women's Voluntary Services, 11 E. 58th St., New York.

Matthews H. Tardy, *Architect*, has closed his office at 200 S. 8th St., Gadsden, Alabama, and has gone into active service with the Army as a captain in the Corps of Engineers.

Harold F. Marshall, sales and advertising executive for Warren Webster & Co., Camden, N. J., manufacturers of steam heating equipment, has been ordered to active duty with the Army Air Forces, with the rank of Captain. *Ben F. Lerch* will carry on Capt. Marshall's work for the duration.

THIS DRAWING

is from the

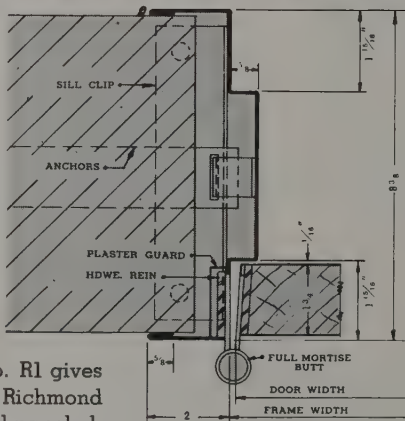
New

RICHMOND


SERVICE

SHEET R1

Newly issued Service Sheet No. R1 gives you quick facts on 8 types of Richmond Kalamein Doors—both flush and paneled. Service Sheet R1 measures 17" x 22" and folds to 8½" x 11" with the A.I.A. file number for convenient reference. Everything is given on this service sheet that you will want to know in detailing and specifying Richmond Kalamein Doors. Send for Service Sheet No. R1 today—and ask for extra copies for your assistants.



THE RICHMOND FIREPROOF DOOR COMPANY
NORTHWEST FOURTH STREET RICHMOND, INDIANA



Dependable Heat for the Duration
...and many Years Beyond

KEWANEE

Steel BOILERS

Today, as never before, *Quality Counts*. With heating boilers practically off the market, those now on the job must stand up. Kewanee heated buildings are "sitting pretty." Even though the boilers were installed 15 to 20 years ago, or earlier, they are good for the duration and 'way beyond. Extra service is assured by sturdy steel plate construction with extra strength in every part.

The Steel Heating Boiler Most People "Swear By"

Pictured is the boiler room of the C. Mephram High School, Bellmore, L. I., heated with 3 Oil Burning Type "C" Kewanees with total heating capacity of 120,450 sq. ft. ... one of thousands of installations which have made Kewanee the steel heating boiler most people "swear by."

A Kewanee will take a lot of abuse . . . but proper care will stretch its long span of service even further. We urge that every Kewanee get that sort of attention: Ask for wall chart on the care of Kewanee Steel Boilers.

KEWANEE BOILER CORPORATION
KEWANEE, ILLINOIS

Division of AMERICAN Radiator and "Standard" Sanitary Corporation

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37 West 39th Street, New York City

PRODUCTS PROGRESS

LOW TEMPERATURE INSULATION. Armstrong Cork Company, Lancaster, Pa.



This new priority product, "Foamglas," presents glass in a form never before manufactured. It is fireproof, waterproof, odorless, will not rot, mold, or decay, and is vermin-proof. Foamglas can be sawed and worked with ordinary tools.

WOOD WARTIME TOILET COMPARTMENTS. Sanymetal Products Company, Cleveland.



Four types of this company's steel toilet compartments have been converted to 7-ply Douglas Fir plywood construction. They are offered as temporary substitutes for steel compartments. Special bulletin No. 900 is available on request.

NEW CONDUCTIVE ASPHALT TILE. Armstrong Cork Company, Lancaster, Pa.



This tile has less than 1/10th megohm surface resistance under certain conditions. Because of this safety feature it is suitable in arsenals, bomb loading plants, and elsewhere where static electricity presents a safety hazard.

PLASTIC AND WIRE WINDOW PANE. Monsanto Chemical Co., Springfield, Mass.



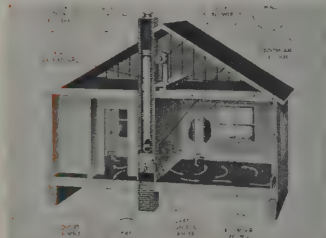
Known as "Vuelite," this new type window pane withstands an explosion of a 150-pound bomb 8 feet away. It is clear and transparent as a screened glass window. It can be installed in steel or wood sash. For use in potential air-raid zones.

CAST GYPSUM-BASE MATERIAL. Art-Forms Studio, 53 Downing Street, New York.



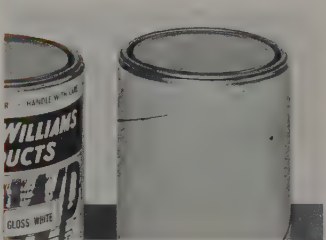
From any original sculpturing, precast panels are made in the studio for either flat or curved wall surfaces. Any design can be rendered in Decor-Tex. Paint or other finish can be applied in the same manner as over plaster or wood.

CHIMNEY HEATER FOR LOW-COST HOMES. Round Oak Co., Dowagiac, Mich.



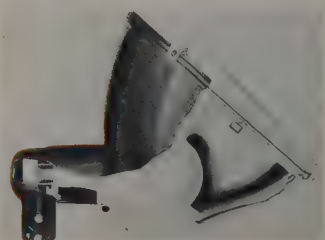
In this system the chimney contains the forced hot air furnace. A minimum of critical materials are required. Domestic hot water attachment is available. It is designed for coal but can be converted to oil or gas. (Btu output not given.)

CANS OF TREATED CARDBOARD. Sherwin-Williams Company, Cleveland.



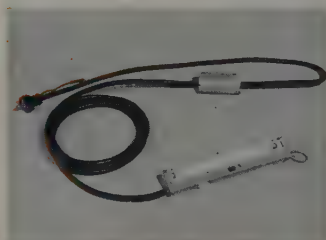
Half-pints, quarts, and gallons of this company's paint will be packaged in a new war emergency container. An alloy coated plate forms the top and bottom. The cylinder of treated paper has been tested and found completely satisfactory.

WIDE AND NARROW BEAM FLOODS. Westinghouse Electric Company, Cleveland.



Two lenses for wide and narrow beams are made of heat resisting glass, dust-tight and moisture-proof. Lamp combinations from 750 to 1500 watts with a choice of reflectors provide a range of beam spreads. Same housing for either type.

FLUORESCENT EXTENSION CORD LIGHT. Hygradeylvania Corp., Ipswich, Mass.

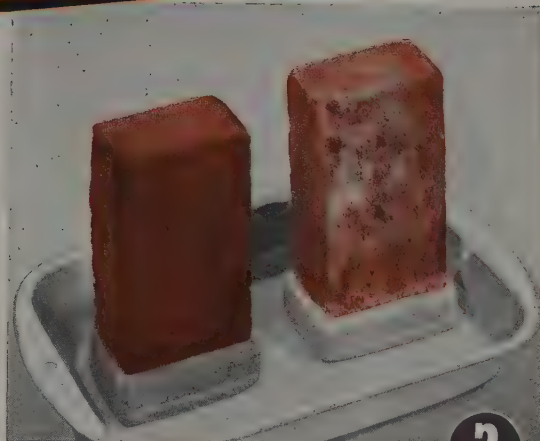


Rugged, lightweight and compact, this unit is adaptable to all kinds of extension cord service. The light source is cool and may be clipped to his clothing by the worker, leaving both hands free. Low brightness reduces glare and eye fatigue.

MAKE THIS TEST -
Prove **BRIXMENT** *is BEST!*



"Cap" one brick with Brixment mortar (left), and one brick with mortar made with 50-50 cement and lime. After mortars have hardened, place both brick in a pan of shallow water. (Photo 1.)



Keep about an inch of water in the pan. Even if soluble salts are present in the brick or sand, you will soon be convinced that *Brixment* mortar helps prevent efflorescence. (Photo 2.)

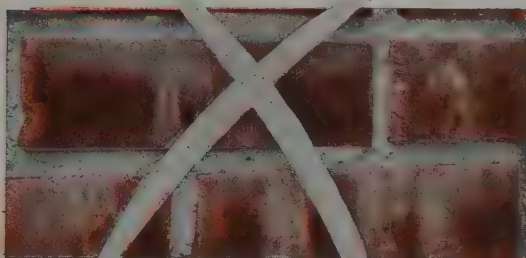
BRIXMENT *Helps* **Prevent EFFLORESCENCE!**

EFFLORESCENCE is an outcropping of minute white crystals on brickwork. When these crystals occur on colored mortar joints, the condition is sometimes mistaken for *fading*.

Efflorescence is caused by the presence of soluble salts in masonry materials. When reached by water, these salts dissolve, and are drawn by evaporation to the surface of the wall.

Brixment itself *does not cause efflorescence* because it is practically free from soluble salts. Even when such salts are present in the sand or brick, the waterproofing in Brixment mortar usually *prevents*

them from coming to the surface. . . . Bricklayers who have used Brixment mortar for years say they have far less efflorescence with Brixment mortar than with *any other kind.*



BRIXMENT

For Mortar and Stucco

Louisville Cement Company, Incorporated, Louisville, Kentucky. Cement Manufacturers for Over a Century.

HOLOPHANE *Planned* LIGHTING

Saves

- ★ CRITICAL MATERIALS
- ★ ELECTRIC CURRENT
- ★ MANPOWER

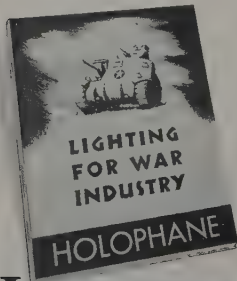
to Provide

- More SHIPS
- More TANKS
- More PLANES

Holophane Planned Lighting achieves economy through *control* . . . Now with the national effort straining for conservation, the fundamental economies provided by Holophane equipment are more desirable than ever . . . Artificial lighting is part of the "intermediate" machinery that produces the "immediate" implements of war. The more saved on this "intermediate" equipment the more available for the armament itself.

HOLOPHANE LIGHTING *Converts WASTE into WEAPONS*

- ★ **CONSERVES MATERIALS:** Holophane Lighting units use a minimum of critical materials in their construction.
- ★ **CONSERVES MAN HOURS:** Holophane Lighting, planned for a specific production situation, creates seeing conditions that mean less man hours per given task, less accidents, less errors and less nerve strain. It also affords economies in maintenance time and expense.
- ★ **CONSERVES ELECTRIC POWER:** Holophane controlled illumination assures effective light for essential working areas with minimum current consumption.



← SEND FOR THIS BOOK

— produced for war industry executives — which will show you how to plan the most efficient lighting, how to get the full results of your planning, how to figure cost, maintenance and installation. Sent without charge.

CONSULT HOLOPHANE ENGINEERS . . . They stand ready to serve you with expert counsel on your individual lighting requirements. Call on them without obligation.



Holophane

COMPANY, INC.

Lighting Authorities Since 1898

342 MADISON AVE., NEW YORK

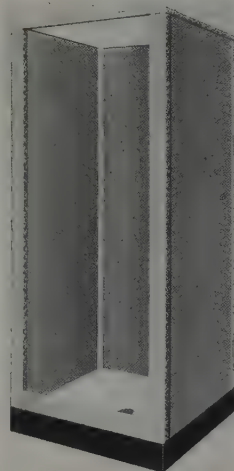
HOLOPHANE CO., LTD., 385 YONGE ST., TORONTO, CAN.

PRODUCTS PROGRESS

(Continued from page 20)

SHOWER CABINET conserves steel. Fiat Metal Mfg. Co., 1205 Roscoe St., Chicago, Ill.

Approved and accepted by the U.S. Engineers for use in temporary housing



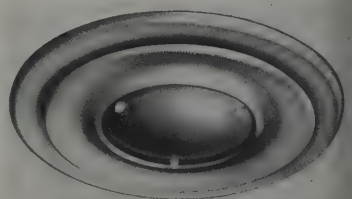
structure is the Volunteer model shower compartment. It is a non-slip, leak-proof, rigid, and durable compartment, easily and quickly erected. Walls are of hard pressed, treated fiber board, coated in-

side and out with waterproof baked-on grey enamel. All assembly pieces are of galvanized steel.

The receptor is made of pre-cast reinforced concrete, with the drain cast integrally with the receptor. Overall dimensions are 32x32x75".

Recessed type AIR DIFFUSER. Barber-Colman Co., Rockford, Ill.

This recessed model of the firm's line of Venturi-Flo air diffusers is a spun



steel overhead type with flow characteristics similar to those of Venturi meter. Relationship between neck area of unit proper and Venturi throat is so proportioned as to create a slight back pressure in the neck at all times, automatically insuring uniform distribution around the periphery. A wide range of sizes and special styles is available, permitting handling of air volumes up to 15,000 cfm per unit. (Bulletin F-1497-2 describes operating features.)

(Continued on page 24)

DEPENDABILITY

Proof that a Carrier Centrifugal Refrigeration Machine will give you dependable operation at Low Cost year after year

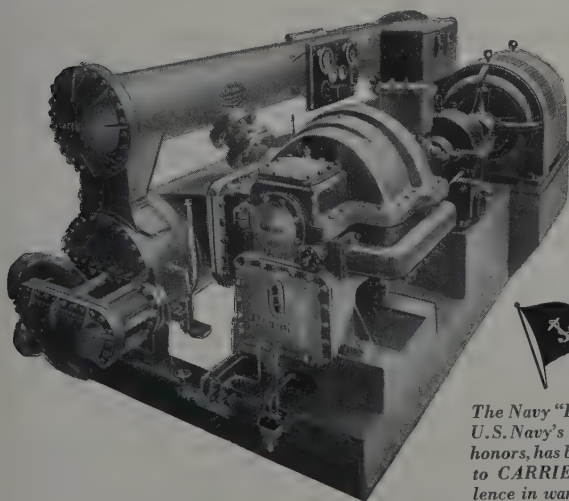
365 Days Around the Clock is the operating schedule of the Carrier Centrifugal Refrigeration Machine installed in the blast furnace of the Woodward Iron Company, Birmingham, Ala.

20 Years Service is the record of the first Carrier Centrifugal installed at the Onondaga Pottery Company, Syracuse, N. Y.—still operating as efficiently as ever.

7200 Hours A Year. The Carrier Centrifugal at the Narragansett (R. I.) Brewery operates on an average of 7200 hours a year—and brings the owner large annual savings.

24 Hours A Day. Operating 24 hours a day every day, the Carrier Centrifugal Refrigeration Machine at the Skenandoa Rayon Corp., Utica, N. Y. has drastically cut processing and refrigeration costs.

More Than 1000 In Use. Dr. Willis H. Carrier invented the Centrifugal Refrigeration Machine which represents the greatest improvement ever developed in mechanical cooling. Whether the requirement is for a minus 100° F. or for 1200 tons of water chilling capacity, the new range of Carrier Centrifugals takes care of every need — will meet refrigeration requirements more efficiently, dependably and at low operating costs. The operating records of the Carrier Centrifugal Refrigeration Machines cover two decades. Carrier brings to architects and consulting engineers experience gained in both peacetime and wartime industries.



The Navy "E", one of the U. S. Navy's most coveted honors, has been awarded to CARRIER for excellence in war production.

Just a Few Operating Records

WHERE INSTALLED	YEAR INSTALLED	AVERAGE HOURS PER YEAR
Convention Hall	1929	3,000
Printing Plant	1929	6,000
Textile Mill	1929	4,254
Rayon Manufacturer	1930	7,200
Drug Manufacturer	1938	3,946
Cosmetic Manufacturer	1936	6,612
Brewery	1935	7,200
Chemical Manufacturer	1933	5,000
Hospital	1934	7,200
Fruit Storage	1933	2,400
Hotel	1934	7,200
Broadcasting Studio	1930	3,100

RECORDS LIKE THESE COME ONLY FROM DEPENDABLE OPERATION!

Carrier
Centrifugal
REFRIGERATION

Mail the coupon below for our New 42-page Booklet. It Has the Most Complete Data on Centrifugal Refrigeration Ever Published.

CARRIER CORPORATION,
Syracuse, N. Y.

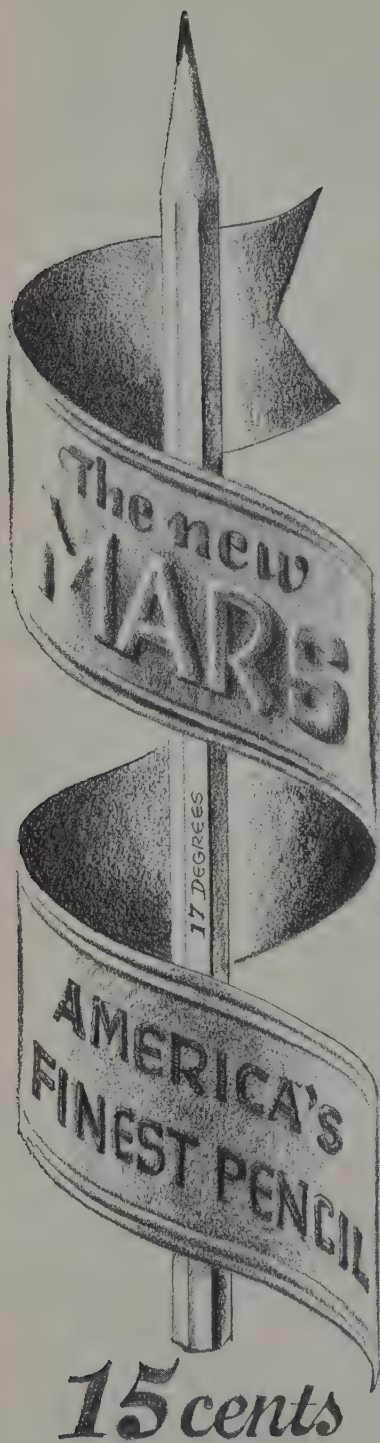
Desk H37

Without obligation, send new free booklet
"20 Years of Centrifugal Refrigeration."

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Company

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15 cents

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KEUFFEL & ESSER CO.
NEW YORK

PRODUCTS PROGRESS

(Continued from page 22)

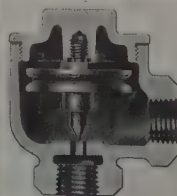
MINERAL-SURFACED SIDING BOARD has many war-time uses. **Certain-teed Products Corp., 120 S. LaSalle St., Chicago, Ill.**

Certain-teed mineral-surfaced siding board provides a readily available material for use on outside walls of structures of all kinds, or on any building where corrugated metal siding might normally be used. This board has no corrugations but is a laminated, asphalt-saturated felt, covered on one face with colored mineral granules, either buff or dark brown. It requires no painting, and is applied with ordinary roofing nails. Individual sheets are 36 and 48 inches wide, and come in 6, 7, 8, 9, and 10-foot lengths. Single sheets range in weight from 18 to 42 lbs.

This new siding material may be applied with a vertical joint, filled with plastic cement, and covered by wood batten strips; or by dutch lapping, 3-inch sidelap and 3-inch headlap. It is applied in practically the same way as metal sheets.

RADIATOR TRAP meets war requirements. **Warren Webster & Co., Camden, N. J.**

The new "Old Ironsides" trap valve is designed for connection to the radiator with a right and left hand pipe nipple — a practice now resorted to because of the resultant savings. Brass formerly used in the trap and valve body, caps,



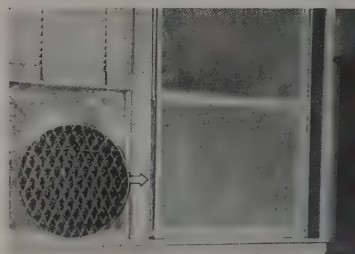
nuts, and nipples is conserved. Cast iron bodies and bonnets come in natural finish for painting after installation. Nickel and other plating have been eliminated.

Three sizes of traps: $\frac{1}{2}$ " for 200 sq. ft.; $\frac{3}{4}$ " for 400 sq. ft. and 700 sq. ft.; two sizes of valves: $\frac{3}{4}$ " and 1", both in angle body with wheel handle standard.

BLACKOUT AND GLASS SHATTER SCREENS. **Research Products Corp., Madison, Wisc.**

Neither fire, falling timbers nor walls, but flying glass, has been the principal cause of casualties in bombed areas, declare English air raid wardens. Early in the war, windows were crisscrossed with tape in an effort to pre-

vent casualties resulting from shattering of window glass. Since then,



many materials have been suggested as safeguards.

The Research Products Corp., in order to test various suggested materials, as well as a "blanket" of their own design, devised a unique explosion box in which everything from wall-board to material actually glued to the glass was put through explosion tests.

It was found that materials which allowed air to pass through, but which were strong enough to stop and sieve out the shattered glass from passing through, were the answer to the problem. As a result, the firm has developed a screen which is nothing but a porous blanket made up of 16 layers of black, flameproof, expanded fiber and 4 layers of light-colored, flameproof expanded fiber. This material is mounted in a light wooden frame and attached inside of windows, skylights and door glass.

ASBESTOS-FACED LAMINATED BOARD FOR FABRICATION OF RETURN DUCTS. **The Philip Carey Mfg. Co., Lockland, Cincinnati, Ohio.**

A-D Board is said to be a strong, tough and inexpensive board, designed primarily for fabrication of return ducts by nailing across two joist bays. Sheets are 33 inches wide for standard joist spacing of 16 inches.

The board is white asbestos on both sides, is flameproofed, rustproof, moisture resistant, a non-conductor of electricity, does not deteriorate with usage. Although the material requires no additional finish, it readily takes cold water paints, or lead and oil paint after sizing.

A.D. board is easily cut or sawed to shape and size, and quickly applied with nails or staples. It comes in standard sheets (33x60") center lined, $\frac{1}{8}$ -inch thick. A package contains 8 sheets (110 square feet). In addition to fabrication of return ducts, it is recommended by the manufacturer for joist liners, pan construction, spray booths, clothes chute and dumb waiter lining, reflector panels for indirect lighting, and finishing of basements, attics, stairwells.

WORK & REPAIR

Job No. SE-1000

~~LOADING DOCK~~

~~RAMP~~

*remove and install one
Rotary Levelator*

**THAT'S THE
DECISION...**

*That solved a "knotty"
problem for the
Continental Baking Company*

Increased business in their numerous bakeries over the country necessitated the revamping of a number of plant buildings. Garages were one of the "tightest" spots... increased truck storage space simply had to be provided and a method worked out for the more rapid handling of merchandise, in order to keep all trucks rolling.

On analyzing the floor plan of a typical garage it was discovered that more than 500 sq. ft. of floor area was utilized by a loading dock and its ramp into the bakery—far too much costly space wasted.

The space-eating loading dock and ramp was ripped out and a Rotary Levelator, requiring only 27 sq. ft., was installed. Continental Baking Company officials say that this change not only has made more vitally needed floor space available but it has materially speeded up loading time, resulting in lower costs.

Now bread and cake racks are rolled onto the Levelator at floor level, quickly elevated to exact truck bed height by the simple push of a button and then rolled into the truck.

*Send for informative
Levelator Manual illustrating
various applications*

You'll Be Amazed How These Safe, Easy-to-install-and-operate Oil-Hydraulic Devices Solve Loading or Other Lifting Problems.

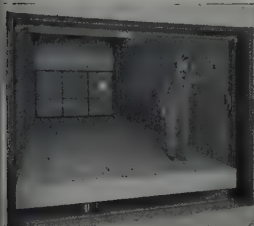
The Hydraulic Jack can be powered by an electric oil-pumping mechanism or by your own compressed air, when available. Hand Lever or Pushbutton Control is furnished, according to the application. Accurate landing stops and trouble-free operation are inbuilt. Each Levelator is "tailor made" to fit your particular needs. Write today to Rotary Lift Company, 1081 Kansas, Memphis, Tenn. — No obligation, of course.



Installation at Chicago Plant of Continental Baking Company

A Throw-Over Bridge, hinged to platform, throws over onto truck bed. Metal skirt guards traveling with the 4' by 6'-6" platform provide absolute safety.

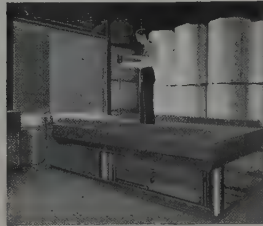
OTHER PRODUCTS PIONEERED BY ROTARY



Freight Elevators



Auto and Truck Lifts



Heavy Duty Levelators

These heavy-duty Oil-Hydraulic Freight Elevators have actually set a National trend in the past few years, because of their ability to do the job year in and year out under all kinds of conditions. They are practical up through a rise of 40 ft. Sold, installed and serviced everywhere east of Rockies, U.S.A.

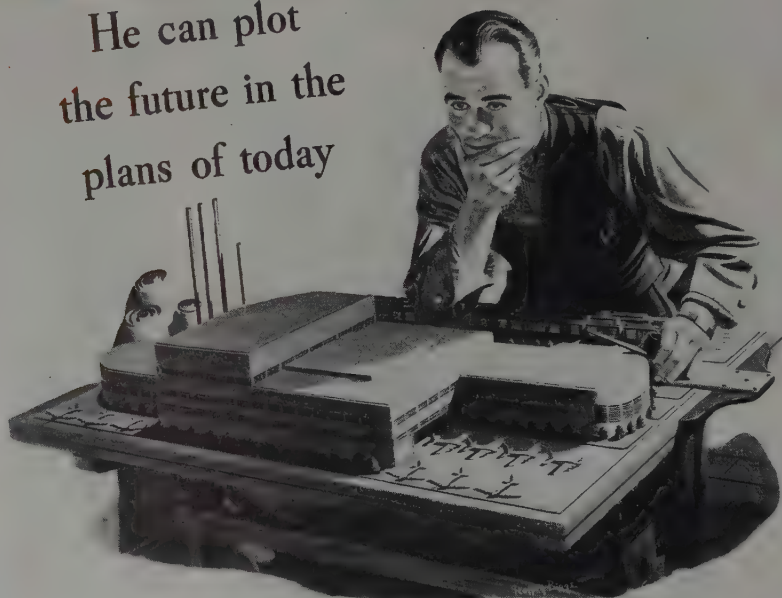
Rotary were the first people to ever build a Hydraulic Automobile Lift and today have more than 38,000 in use throughout the world. Available in either single or dual plunger types, with capacities up through 50,000 lbs. In stock. Immediate delivery.

Levelators with extra long platforms or with capacities in excess of 20,000 lbs. usually require dual plungers, mechanically equalized during their rise. Such units are standard with Rotary... available with various control systems. Note the Bevel Toe Guard to prevent toe crushing.



THE PUBLIC ISN'T FORGETTING

He can plot
the future in the
plans of today



The title on his office door is "Architect"—but it scarcely does him justice. His has been a leading part in making America a nation of modern skyscrapers, efficient factories... and comfortable, livable homes.

Today his skill is devoted almost entirely to war-vital projects. Indeed, materials for homes he would like to design are not available. Copper and brass and bronze are needed to help fight the war. He, of all people, appreciates the necessity. For the very qualities that make these metals so indispensable for home construction

make them doubly vital for war production...for ammunition, for planes and ships—and for the electrification of the plants that produce them.

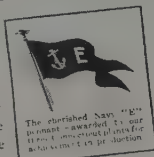
But your architect can look ahead with confidence. Much of the wartime design he is developing today will be reflected in finer peacetime construction to come. And this he can also count on: When the present emergency is over, Anaconda Copper, Brass and Bronze—for rustproof piping, for enduring gutters, downspouts and flashing, for screens and hardware and weather-stripping—will

be ready for an even wider field of application.

For, while devoting every productive effort to helping win this war, Anaconda is carrying on the same research that pioneered such important developments as brass-pipe plumbing, that paved the way for copper tubing, which made low-cost, rust-free water piping possible.

The homes that can't be built today will be better built tomorrow because of Anaconda research.

THE AMERICAN BRASS COMPANY
General Offices: Waterbury, Connecticut
Subsidiary of Anaconda Copper Mining Company
In Canada: ANACONDA AMERICAN BRASS LTD.,
New Toronto, Ont.



Anaconda Copper & Brass

4704. THIS ADVERTISEMENT APPEARS IN TIME, CIRCULATION 890,698; ISSUE OF AUGUST 3, 1942

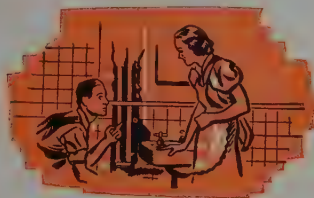
FROM TIME MAGAZINE • AUGUST 3rd

This is the fourth in a series of advertisements that are helping to maintain public interest in better building... through copper, brass and bronze.

WHAT YOU CAN DO FOR THEM...

The desire for comfortable and gracious living . . . for which you have been largely responsible . . . has not dissolved in the crucible of war. It is being kept alive by such messages as you see to the left.

Reminded that copper and brass are vital to victory, Americans also are reminded of the economies and comforts these durable

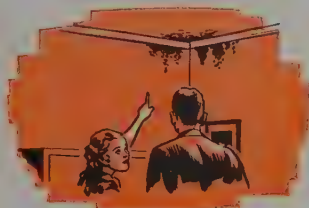


metals can bring them when peace returns. With you, they look forward to the day when you can specify, they can buy, copper and brass plumbing and be sure of no inconveniences or expenses caused by rust . . . secure in the knowledge that their piping will always deliver a full, rust-free flow of water.

The Everdur* water storage tanks they seek are doing duty in the fight for victory. But, they'll be back too, saving the unpleasantness of hot water discolored with tank-generated rust . . . serving faithfully, dependably, year in and year out.



And although less durable materials must be used for flashings today because copper is now making munitions for our armed services, peace will bring its durability back to American homeowners. With copper, they know there'll be no water damage so often experienced when rustable metal flash-



ings are used . . . they'll get better, less expensive service from rain disposal systems made of copper.

Your specifications of copper, brass and bronze have made thousands of homes more livable, more economical. The homeowners of the future will look to you for the same advantages.

4214

Anaconda Copper & Brass

*Trade Mark Reg. U. S. Pat. Off.

THE AMERICAN BRASS COMPANY

General Offices: Waterbury, Conn.

Subsidiary of Anaconda Copper Mining Company

Canada: Anaconda American Brass Ltd., New Toronto, Ont.

Tired eyes here can lose a battle



● Old standards of speed, of volume, of precision simply do not go now!

The last hour of every shift has to produce as much, as fast and as well as the first — and in spite of fatigue and eye-strain that develop even under the best working conditions.

That is why Hygrade Sylvania puts its emphasis on building only the *best* in fluorescent lighting.

All lighting of this type is shadowless, all is cool, all gives more light for the same wattage. But Hygrade Fluorescent Lamps are built to go beyond all that in no less than five checkable ways:

The *smoother coating* of these lamps is visible to the eye. They *deliver more lumens* per watt, which can be measured. The light they cast is *more even in color* — every lamp is uniform. They are "*bright to the last inch*" — greater freedom from dark streaks and splorches



makes the whole length of the lamp effective over a longer period.

Finally, these lamps *last longer*, requiring fewer lamp purchases, fewer interruptions for lamp changes.

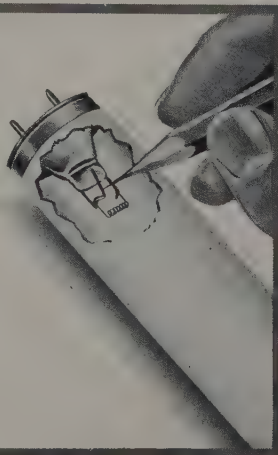
Any lighting system is made better by better lamps. Naturally, peak results follow when you use Hygrade Sylvania Lamps in Hygrade Sylvania fixtures — fixtures that are *engineered as a unit* with each part built to come up to the top standard of every other.

To help keep end-of-the-shift work up to par, recommend Hygrade Sylvania Fluorescent Lighting — "fluorescent at its finest." If a field engineer can assist you, write or wire us.

MAKES MERCURY STRETCH 100% FURTHER!

Mercury, one of the most critical of all scarce metals, is required in all fluorescent lamps. Through its newly patented* "mercury bomb," illustrated here, Hygrade Sylvania is able to make mercury go 100% further, using only a half as much of this essential material as is normally employed. Furthermore, this saving is accomplished with actual improvement in lamp quality. The "mercury bomb" provides precisely the right amount of mercury for each lamp, minimizing streaky "mercury shadow," eliminating "slumpers" (lamps that grow dim after a few hours' use), and assuring more uniform lighting quality. For better light and to help conservation of vital war material, make sure you get Hygrade Sylvania Lamps for your fluorescent lighting system.

*Pat. No. Number 2,283,189, issued May 19, 1942

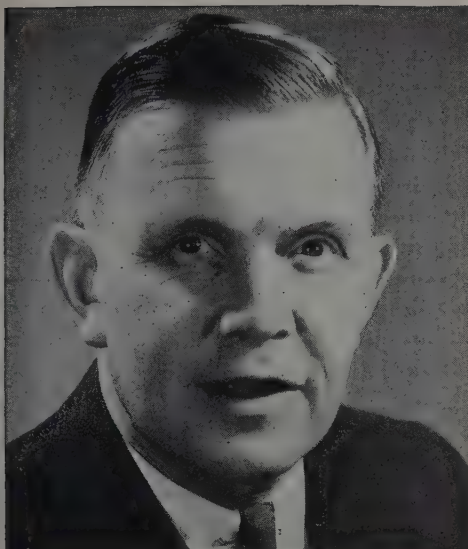


SYLVANIA

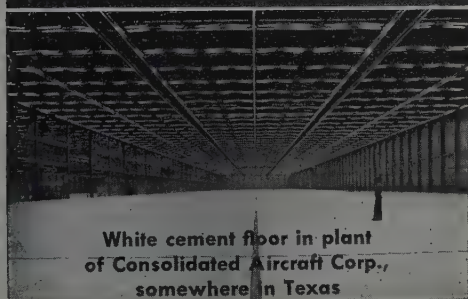
CORPORATION

Salem, Mass.

Hygrade Incandescent Lamps, Fluorescent Lamps, Fixtures and Accessories, Sylvania Radio Tubes



**I never expected
to see the day
when we'd get
LIGHT
FROM
OUR FLOORS**



White cement floor in plant
of Consolidated Aircraft Corp.,
somewhere in Texas

Designed by The Austin Company, engineers and builders

PLANTS SPEED UP WAR PRODUCTION

with floors that reflect light!

White Cement Floors are a new source of light—increasing illumination as much as 20% or more in one of the nation's largest aircraft plants. Let us send you specific data on their efficiency, economy and advantages.

FLOORS, like walls and ceilings, can aid the better lighting of a factory.

Few people ever thought of this—until a number of large aircraft plants installed white cement floors. Today these light-reflecting floors are speeding the flow of vital war machines. Today the same concerns are installing white cement floors in other new plants. What they are doing there can be applied to many other plants.

White floors made of Atlas White cement absorb less light and thus distribute and diffuse much more light than dark floors. In one factory they showed a 60% higher reflection factor than gray cement floors in same plant, and increased vertical illumination 20%.

White cement floors throw more light on the bottom sides of bomber wings and fuselages during assembly. By reflecting more light they also increase general illumination. They reduce shadows in work areas along any production line. They increase efficiency of employees, even the greenest... guard their health, comfort and safety. They give all the advantages that factory men, from executives to the last worker, associate with better light and better sight.

Shortages and priorities do not affect this new source of light. Non-critical materials are available for white cement floors today. To obtain the same light intensity over a darker floor would require more rubber and metals that are needed for

the war effort. But white cement floors, by increasing illumination, save lighting. As light generates heat, air conditioning also may be reduced. And electrical equipment requires large quantities of aluminum, copper, rubber, steel, magnesium, lead, zinc, resins—all priority materials.

These savings in first cost of electrical equipment may more than pay for the extra cost of a white cement floor. In addition, there are large savings in operating costs for light and air-conditioning. And maintenance of a white cement floor is simple—regular sweeping, occasional damp mopping, periodic scrubbing.



(left) Gray concrete floors and other dark floors absorb more light and reflect less into work areas where it's needed.

(right) White cement floors have a high reflection factor. This reflected light reaches up into former shadow areas, increases general illumination, makes seeing easier, reduces errors, increases production.

Light-reflecting floors, made with Atlas White cement, are valuable today, and will be tomorrow, for new floors or to repot old ones in any building wherever production, lighting, sanitation and safety are important. Write for details. Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Bldg., N.Y.C.

PP-F-2

LIGHT-REFLECTING FLOORS
MADE WITH ATLAS WHITE CEMENT



STEEL WINDOWS HAVE GONE TO WAR—NOW TRUSCON PRESENTS



Dura-War Wood Windows



...The Wood Window with a Steel Window Background

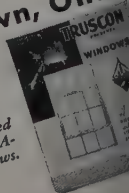
No more steel for windows—it's going into guns, ammunition, tanks, planes, ships, and other essential armament. So Truscon, in answer to the insistent demand for Truscon-engineered windows, now is ready to supply these units in expertly-made wood construction.

The industrial jobs on your boards, laid out for steel windows, can be converted to Truscon DURA-WAR Wood Windows, easily and with no loss of valuable time. For DURA-WAR Wood Windows parallel the types

and sizes in the standard line of Truscon horizontally pivoted steel windows. There is no compromise with quality in this new Truscon line. Each DURA-WAR Wood Window is manufactured to our specifications and subjected to closest inspection. Truscon trained sales engineers and erectors are available to give you all necessary DURA-WAR Wood Window information, including cost, erected and glazed, or merely delivered to job site. Prompt shipments!

TRUSCON STEEL COMPANY • Youngstown, Ohio
 Subsidiary of Republic Steel Corporation

Write today for illustrated catalog on Truscon DURA-WAR Wood Windows.



The New

PENCIL POINTS

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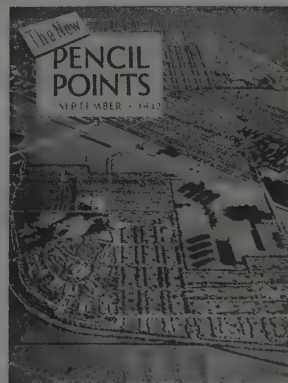
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AUGUST • 1942

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NEXT MONTH

There are some Questions that must be answered before work can proceed very far toward intelligent Post-War expansion and rehabilitation. Charles W. Killam poses a few of the most pertinent in our September issue — we have called on experts in various fields to supply answers. But Post-War Planning is more than talk. A study for Granite City, Illinois, has already been completed and will be presented in the same issue. This project, including models, charts, and reports, comes from the School of Architecture of Washington University, St. Louis. • Other features of the issue will be a discussion of plywood girders, by Professor C. W. Muhlenbruch, of Carnegie Tech; a pictorial study of California ranch buildings designed by Carl F. Crommé; Selected Details; and other regular departments of THE NEW PENCIL POINTS. • Arthur C. Holden, of New York, whose "Prepare to Meet Your Client" was in the NEW PENCIL POINTS for June, will have something further to say in September about the rightful place of the Architect in a productive society and will point out some of the opportunities for service.



WAR AND

The observer at the recent architectural meetings in Detroit could not easily miss evidences of a changed professional attitude. Delegates from all corners of the country were on the average younger than heretofore, more obviously concerned with the relations of the architect to the changing social organism, more seriously determined to secure final action on some of the matters that had been dragging along for a decade.

The result was an absence of high-flown but meaningless resolutions and a general attention to brass tacks. **What resolutions were passed dealt with realities.** By-laws were streamlined, post-war planning was endorsed, Washington activities by the A.I.A. were approved for continuation and extension, National uniformity for building code and registration requirements were set up as objectives, a long-range public relations program was called for, and the way finally cleared for an effective and democratic unification of professional organization. These were the accomplishments of the convention. **Its work was done.** Its delegates departed for their homes.

But what now? Can the resolutions be effectuated in the midst of war or will every man turn back to his own little problems, leaving the larger concerns to be taken care of by "George"?

True it is that the bulk of the younger, more vigorous men are now or will be soon in the Army or Navy where they will have to forget for a time the affairs of a profession chiefly concerned with peaceful and constructive pursuits. But there will remain in civil life enough vigorous minds in older bodies to do something about the responsibilities of a profession devoted to the continuing service of society. Can they and will they develop and follow a program of action?

Practically, the most urgent need continues to be the closer and more complete organization of the profession itself. Architects have been and will continue to be strongly individual in their thoughts and behavior. But there are important and increasing areas where they must be in a position to act as a unified group. The mechanics of making the A.I.A. more all-inclusive and completely representative have now been simplified. It is now more possible than ever to approach the first stated object of the Institute, which is **"to organize and unite in fellowship the Architects of the United States."** Let the Chapters and their members really work on the getting of new members and they can do it (as has been demonstrated recently in The Great Lakes district). But they can't do it by maintaining the dignified leisurely pace or the stiff aristocratic pose of the past.

Hand in hand with the membership problem goes the need for professional readjustment. Most architects are, unfortunately, not yet ready to assume leadership in the important growing field of land

RESOLUTIONS

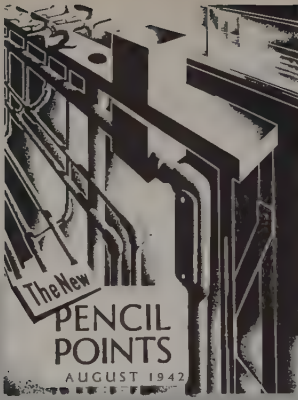
and regional planning and urban rehabilitation. **But they have the stuff of which such leadership can be made.** All they need is expansion of their basic training into the wider field of planning plus the will to enter upon active collaborative study with city planners, civil engineers, landscape architects, economists, real estate experts, sociologists, lawyers, bankers, and others properly concerned with improvement of communities.

Each Chapter of the Institute, each professional society, is challenged by events to put on a real program of self education during these war months. There is a duty, as Arthur C. Holden has said, to substitute for "selling the architect to the public" the task of "selling the public service to the architect." Why can't each architectural group organize in its own community a series of educational meetings or symposia bound together by the single theme—Planning? Local representatives of the different interested elements could be invited to take part and speakers who really know what they are talking about could conceivably be obtained. Where there are architectural schools they could become the centers for these adult education projects. Something of the sort is greatly needed because **there exists an acute shortage of adequately-trained planners** to meet the inevitable needs of the post-war world.

Such an activity could become a vital part of the ever necessary public relations program. The best possible public relations work for architects consists in doing effective public service. The citizens of each community would soon become aware that architects were taking a more active part in civic matters. Many of them would be brought into direct contact with the meetings and would gain increased respect for those architects who demonstrated comprehension of urban problems and ability to cooperate with others in preparing for their solution.

The other approved items of the A.I.A. Convention agenda must be carried out principally by the appropriate officers and committees, though architects everywhere can and should bring their pressure and support where needed. A sharpened sense of citizenship is indicated for all of us and **the average architect's traditional shyness and reserve must be overcome if the resolutions voted for at Detroit are ever to be carried out.** There is leadership in every architect. Now is the time, if ever, to exert it.





IN THIS ISSUE

The Murray Hill Unit of Bell Telephone Laboratories

WE have long contended that the functional approach to design need not result in either insensitive starkness or the cold austerity of much Modern Architecture. Evidence to support this contention is found in the new research laboratory buildings for Bell Telephone Laboratories, Inc., near Summit, New Jersey, designed by Voorhees, Walker, Foley & Smith, Architects.

The essential requirements of the program called first of all for a specified total laboratory floor area with a complete system of piping and wiring services to be fully and equally accessible at any point. The design began, therefore, with the development of an orderly and efficient layout of this system of wires and services—the nerves and arteries of the structure. These things established a standard size of bay from which developed in turn the structural system and the general architectural form.

But the designers did not stop there. By taking thought (as a good architect should) of such things as articulation, color, texture, and other factors of inward and outward aspect, they arrived at a design possessing definite individual character and architectural quality.

The whole establishment is presented on the following pages as an example of what can be accomplished by designing from the inside out when the architect is interested not only in functional perfection of plan, but in outward satisfaction to the eye.

K. R.

MURRAY HILL UNIT

BELL TELEPHONE LABORATORIES, INC.



VOORHEES, WALKER, FOLEY & SMITH, ARCHITECTS

PHOTOGRAPHS BY SAMUEL H. GOTTSCHO



FOREWORD

By DON GRAF

IF the requirements of a single laboratory bench are understood, then the 3-million-dollar Bell Telephone Laboratory—like Tennyson's *Flower i.t.C.W.*—becomes essentially a matter of simple integration. From the needs of hundreds of research scientists for services of many kinds as they work on countless experiments, could easily come a vastly complicated result. But the architectural organization of Voorhees, Walker, Foley & Smith of New York have created order out of what, in less skilful hands, might have become chaos!

Alexander Graham Bell once said that he would never have invented the telephone had he been a scientist—for a scientist would have discarded the principle without trying because it was so simple! The present telephone system is highly complex, however, and requires constant scientific research to meet the public demands for improved and enlarged service.

Bell Telephone Laboratories, Incorporated, is the research and development unit of A. T. & T. Company and the Western Electric Company. Its field of research—electrical communication—has been housed in early manufacturing units of the Western Electric Company and in other scattered locations. Now this sprawling growth is to be partly rehoused in the new laboratory building, and it will provide for 800 out of 4500 engineers, scientists, executives, maintenance men and clerical personnel.

Some 250 acres were selected on the outskirts of Summit, New Jersey, a suburban community 25 miles from New York City. The buildings described on the following pages accommodate parts of the chemical and physical research groups of the Bell Laboratories and together constitute the first unit of what may be a small part of an ultimate development.

THE functional plan problem that the architects had to solve focused upon the chemical and physical laboratory table. A completely flexible space unit had to be developed to allow for laboratories of different widths as well as for rearrangement or change as scientific needs might vary in the future.

The architectural solution was arrived at through a combination of media:

1. Compilation of requirements by Bell Laboratories committee of scientists.
2. Plan and model studies.
3. The building of a test house.

The committee compiled a considerable list of do's and don'ts. These incorporated the owner's requirements and points gleaned from the observation of the other laboratories which were visited.

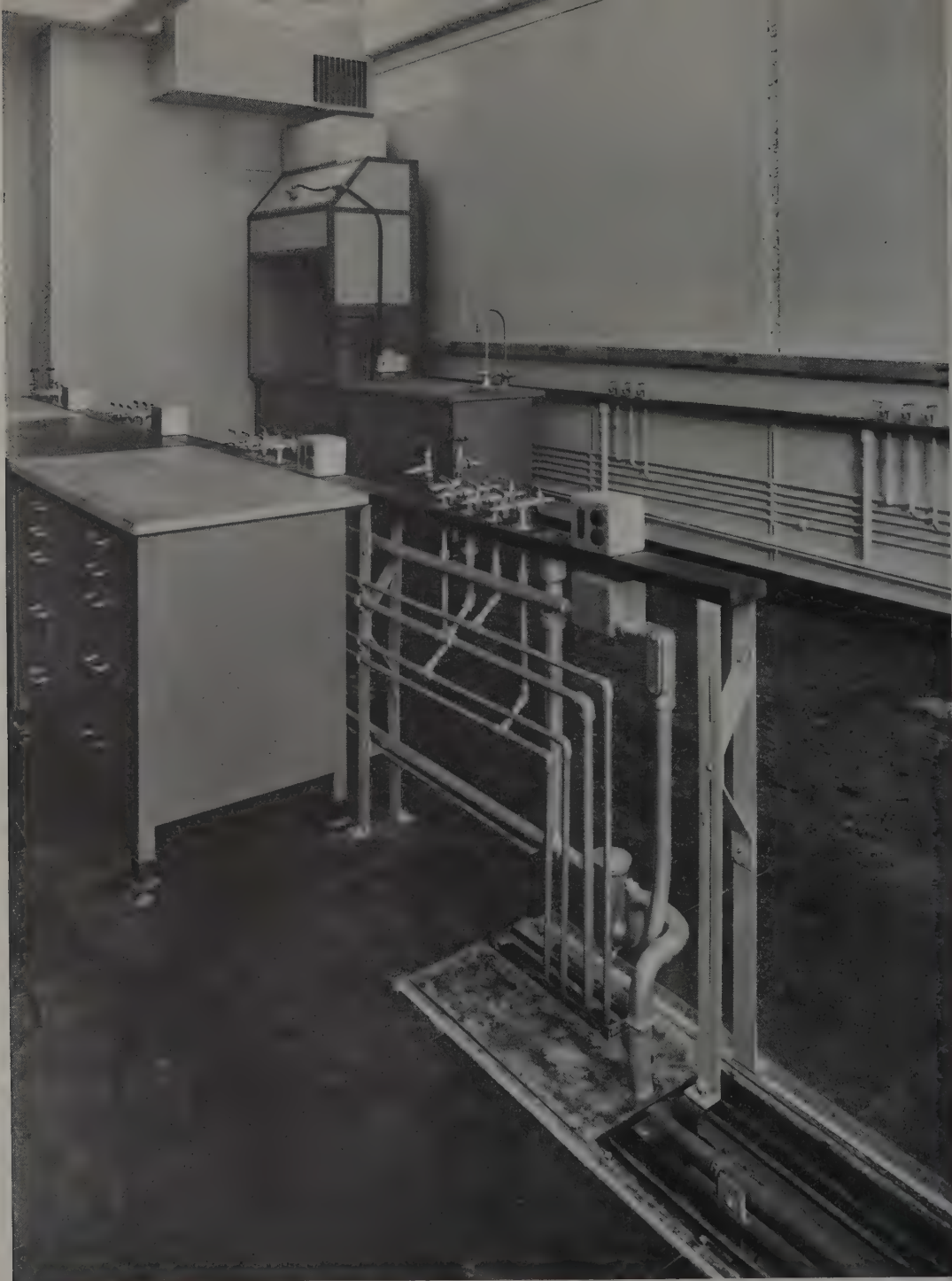
One of the committee's requirements was that there should be a repetitive unit of 6 feet in width which was to include one double-hung window. With this 6-foot module the requirement for adaptability was set since a laboratory could be 12, 18, or 24 feet wide.

Another "must" was that each 6-foot module should have available the following services:

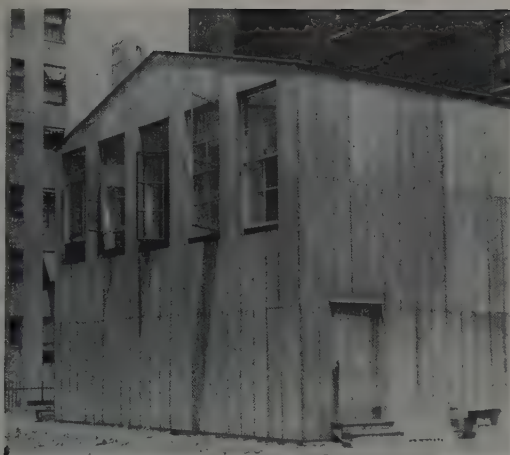
Single and 3-phase AC current
Telephone
Compressed air
Steam at various pressures
Hot, cold and distilled water
Hydrogen, nitrogen and oxygen
Illuminating gas
Vacuum
Drains
Unforeseen or future services.



RESEARCH



An 18-foot or 3-module laboratory with benches has been removed in the illustration to show the support of services on partition walls, and the services for island tables. In the corner is a typical fume hood, above which is the supply register. The floor fill of light Aerocrete concrete is of the proper thickness for the trench in the foreground containing services to the islands—the trench being covered with a steel plate and the finish flooring continued over it



View of the test house where plumbing, heating, lighting, ventilation, wainscot, partitions, furniture, and laboratory services were actually installed for careful study. Note the five types of windows installed for test and selection

Many other requirements complemented or hinged upon the 6-foot module unit.

The next step was the studying of the floor plans at 1/64th inch scale. Plot plans on a topographical map were carried on simultaneously with soap models for determining massing. The models and scale studies resulted in discarding any system of distributing services vertically through the center of the building since it interfered with the mobility of the partitions and tended to fix the position of doors. The outside walls were chosen as a location for the distribution of the mechanical services.

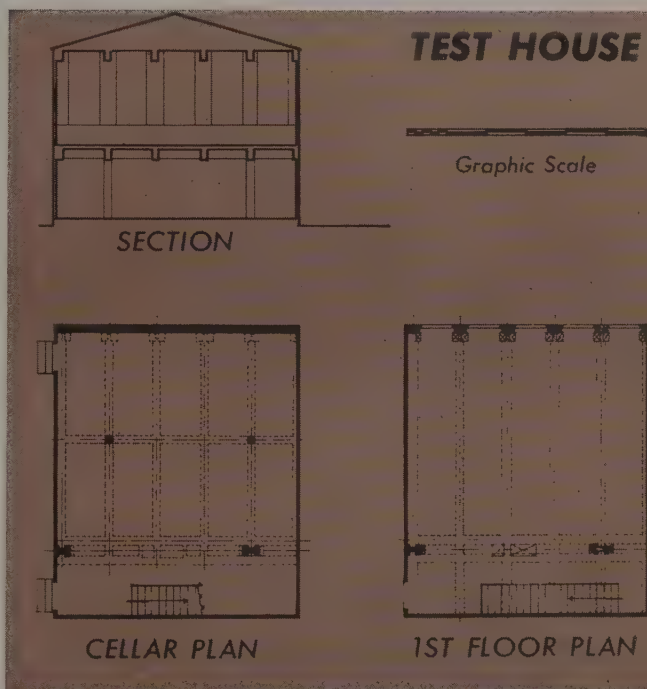
THE TEST HOUSE. As the job progressed from the planning to the working drawings stage, a test house was built. This building consisted of a ground floor simulating the basement conditions and a main floor duplicating five of the 6-foot standard laboratory modules. Plywood and frame construction accurately reproduced the masonry parts in this full-sized model. Plumbing, heating, lighting, ventilation, wainscot, partitions, furniture and laboratory equipment were actually installed in the test house.

The test house proved to have many important aspects. The exact position of the basement mains for the greatest possible simplification of the piping installation was studied extensively. Risers and piping installed in the outside wall revealed in 3 dimensions many things which might not have been obvious from orthographic drawings.

Members of the architects' organization went to the test house to examine the construction—a procedure which was helpful in producing the scale drawings.

Uninitiated representatives of the owner were also frequent test house visitors as problems arose. The owners knew in advance exactly how high the basement ceiling was going to be, how easy the stairways would be to climb, and they were able to visualize the space at full size.

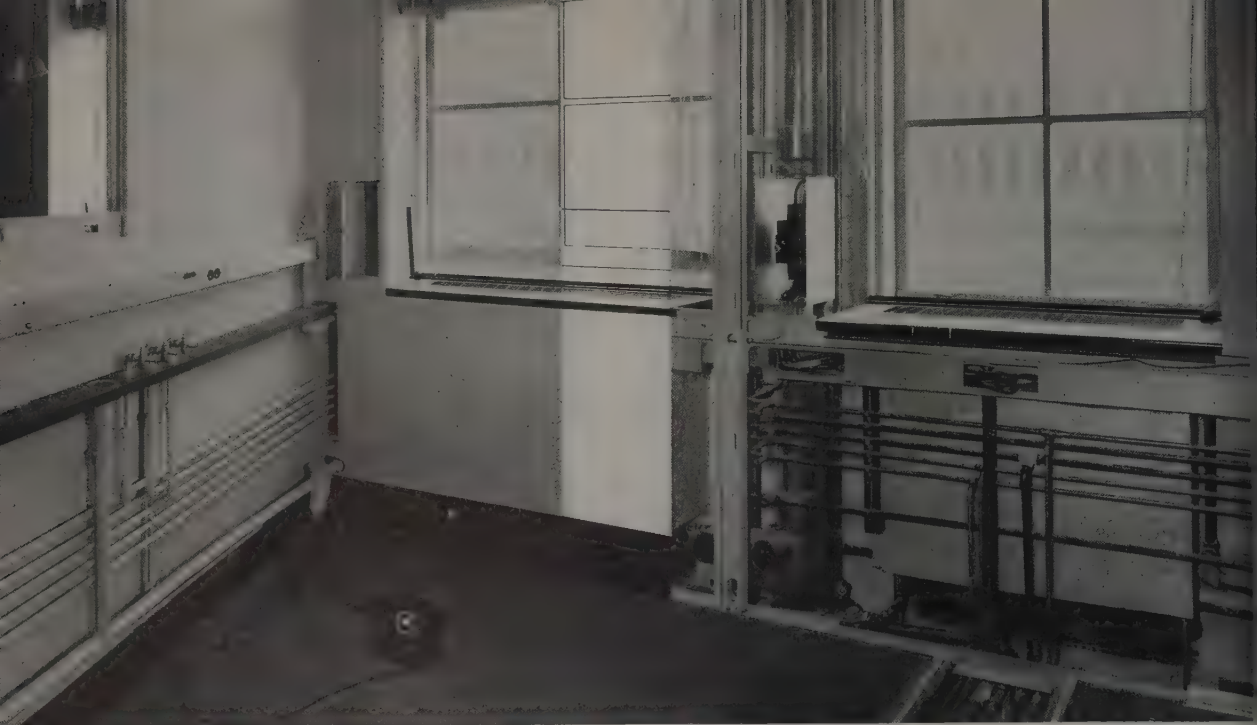
The test house was left standing until the principal sub-contracts were closed. Sub-contractors who viewed the test house could



A full size model, called the "test house," paid for itself many times over. Every dollar saved in simplifying the 6-foot module meant over a thousand dollars in actual construction economy.

have no question as to precisely the work expected of them.

The test house showed the simplicity of the construction and was a factor in securing bids which reflected the economies the architects had worked out. The sub-contractors' foremen saw at the test house the actual installation work they were to perform, which, later, in the construction of the building, did much to make the management of the building mechanics a smooth process.



Note the combination low-tension wireway and window sill support, below which is the horizontal power raceway, fed from the power riser and circuit breaker assembly. At the left of the picture is a typical arrangement of services. The wire trough enables flexibility of electrical outlets

MECHANICAL SERVICES. Having chosen the outside walls as a point of distribution for the mechanical services to the laboratories, it was next necessary to make economic studies to determine the frequency of risers to be taken from the loop mains in either the attic or the basement. The adopted system provides drains on 6-foot centers, telephone and power risers on alternating 12-foot centers, and mechanical service risers on 24-foot centers.

By arranging the 10 mechanical services into 4 groups of associated services, and providing each mechanical riser with horizontal run-outs in the wall beneath the window stools, every portion of each 24-foot bay was thus serviced.

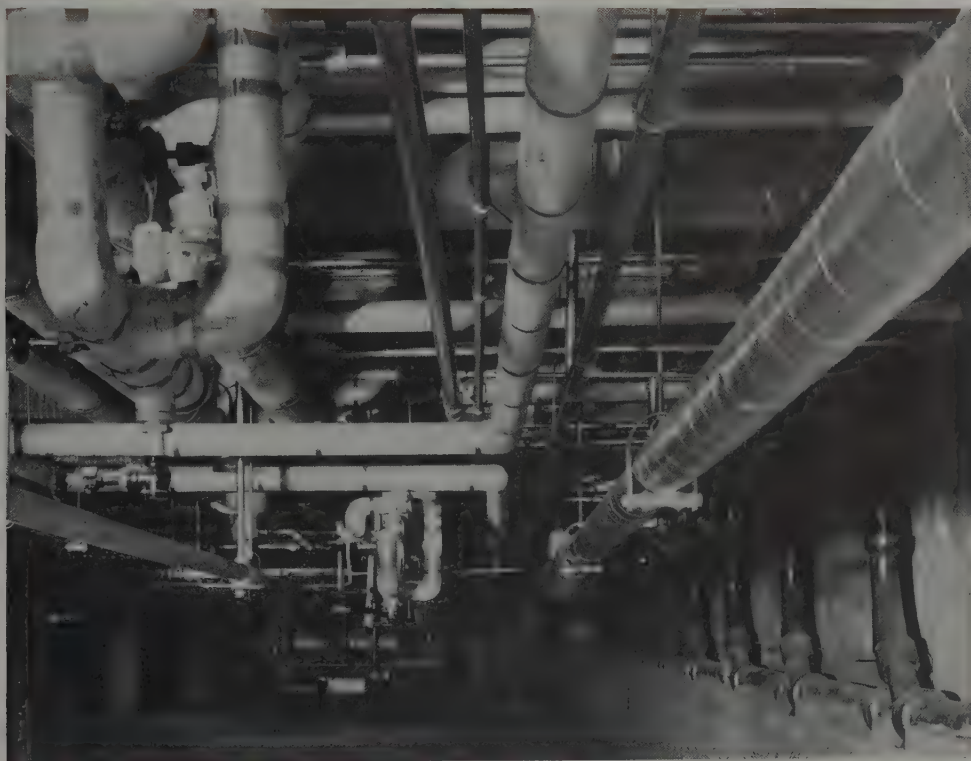
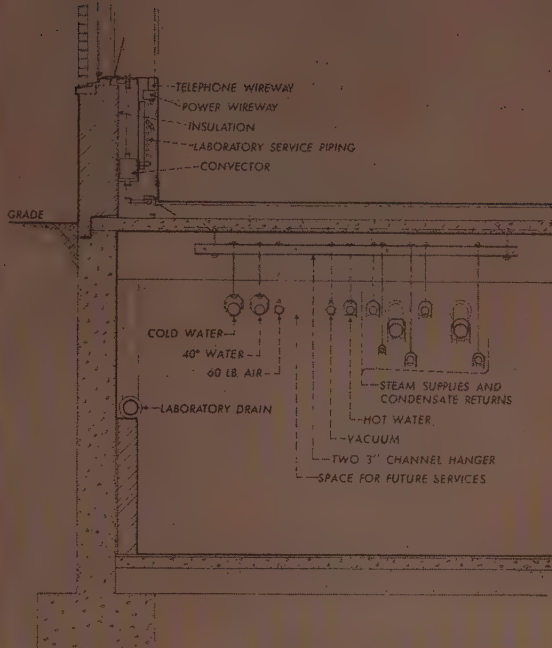
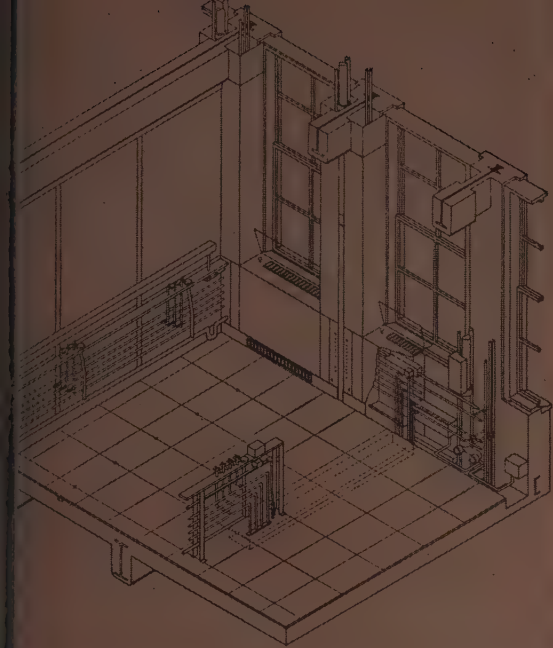
Not only is it possible to bring the many services to any 6-foot module in the laboratory portion, but space is also provided for the addition of other new services should the experiments of the scientists require it. Space in the loop system on the basement hangers has been left for this eventuality.

STRUCTURAL SYSTEM. Sixteen different types of floor systems were designed and evaluated on the basis of economy, thick-

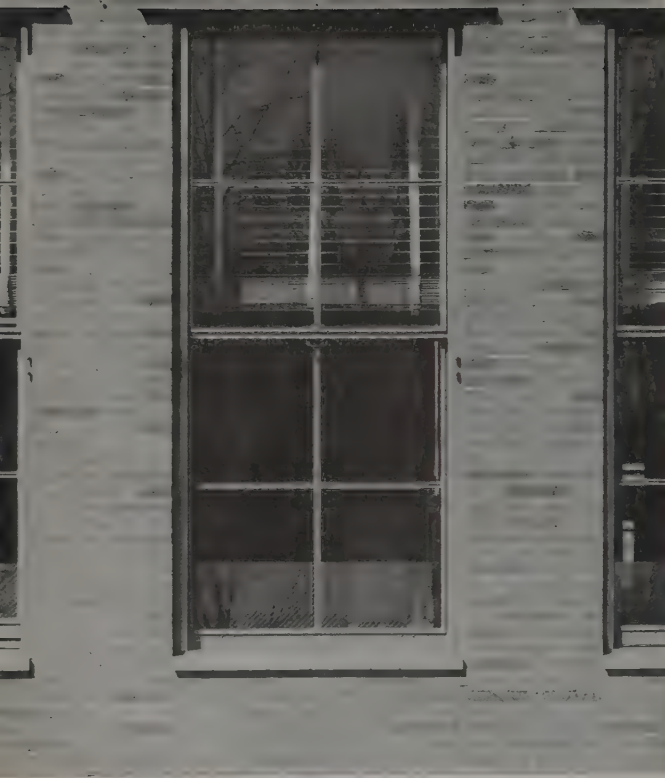
ness, sound attenuation, and appearance. The system giving the optimum advantages proved to be a steel frame in which the beams and girders were designed for uniform depth, supporting the 4" slab reinforced with road mesh. Plywood forms were used and plaster eliminated. Since the framing is of uniform depth, any standard layout of uniform steel partition panels can be effected.

The floor slab can also be easily punctured or an entire 6-foot panel removed in the event that any occupancy so warrants. The lightness of the loads plus beams gives some slight acoustic value and greatly reduces sound transmission through the structure.

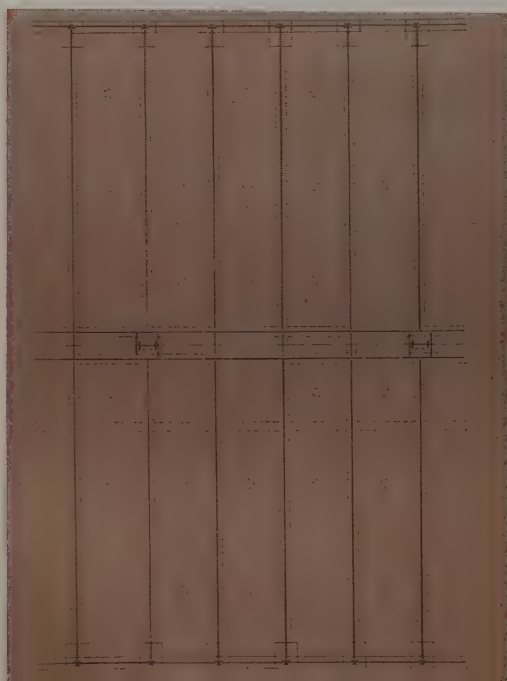
Because it is necessary to run both mechanical and electrical services in the floor fill, this fill is made 4" thick and designed of an exceedingly light aero-crete concrete on which 1" of cement finish was added. In the chemistry laboratories asphalt tile is used as a finished floor, while in the balance of the building linoleum is used. The floor slabs were required to carry 150 pounds generally, with 250-pound loads on the first floor. The beams in the first floor construction are designed for 150-pound live load with a pro-



Actual engineering study combined with the experience gained in the test house made possible the installation of basement loop services, properly spaced and fitted. Note the drains on 6-foot intervals for each module plan unit of the superstructure. Section above, (right) shows typical arrangement of loop service piping in the basement as related to the typical service distribution on the first floor. The local horizontal distribution for typical floors is below the window, between the radiator enclosure and the exterior of the metal wainscot



The special Roman brick used on the exterior is of such size that one brick plus one joint equalled one foot. Thus, the windows and the two widths of piers forming the modules worked out without cutting brick. Wall ties were used instead of headers for bond. The photograph shows the structural lintel with the projecting leg bent down to throw a shadow and form a drip



Section through typical laboratory window head. It should be noted that by means of raising the spandrel beam it was possible to have the height of the window approximately at ceiling level. Special lintels serve as drips and as an architectural motif, through the simple expedient of braking the outstanding leg of an oversize angle

vision for future basement columns to increase this capacity to the 250-pound design load of the slab. The office wings and attic are designed to carry 75 pounds live load.

An analysis of the plan requirements revealed that a building with a center row of columns, having the deeper space on one side and an aisle and the narrower space on the other, would be most satisfactory.

With the completion of the design of the structural and mechanical systems the outside wall construction became fixed. The column, relation of window to arch, the spandrel, the double-hung window selected by the owners, all having been settled, left little to be determined except the interior and exterior finishes.

Rafters are on a 6-foot spacing and consist of 12-inch, 25-pound, wide flange H-sections carried at the center by a longitudinal girder between the center columns and at the outside walls by struts resting on the attic floor beams. The roofing is metal-protected gypsum covered by a 1-inch thick layer of insulation, then building paper, and finally copper sheeting.

At the center line of the building the girders are kept the same depth as the beams by using double members, permitting partition uniformity as well as the removal of a two-foot section of floor for the future installation of ducts. Exterior wall columns consist of two car-building bulb angles. Since the flanges at the beam's end are cut away to provide for vertical service chases, a simple beam connection was made possible by bolting the web between the two bulb angles

ELECTRICAL SYSTEM. One of the greatest necessities in seeking mobility of space was the requirement of having available, without expensive later modification, large sources of electrical energy. To this end the owners developed the load center system of power distribution. This is an adaptation of the common city street network system. The voltage is reduced through successive transformers to 120-208 volts. The 208-volt system is carried under the basement corridor. At each central column alternate sides of the ring are tapped from precast concrete manholes. In this way extremely heavy power risers may be added to any part of occupied floor area with no more expense than to tap the source at the nearest basement column.

Laboratory power is taken from the panels on alternate center columns to the outside wall where risers are located in the chases on 12-foot centers. At each floor level a 50-ampere circuit breaker is tapped in, and from here it is fed laterally under the window in

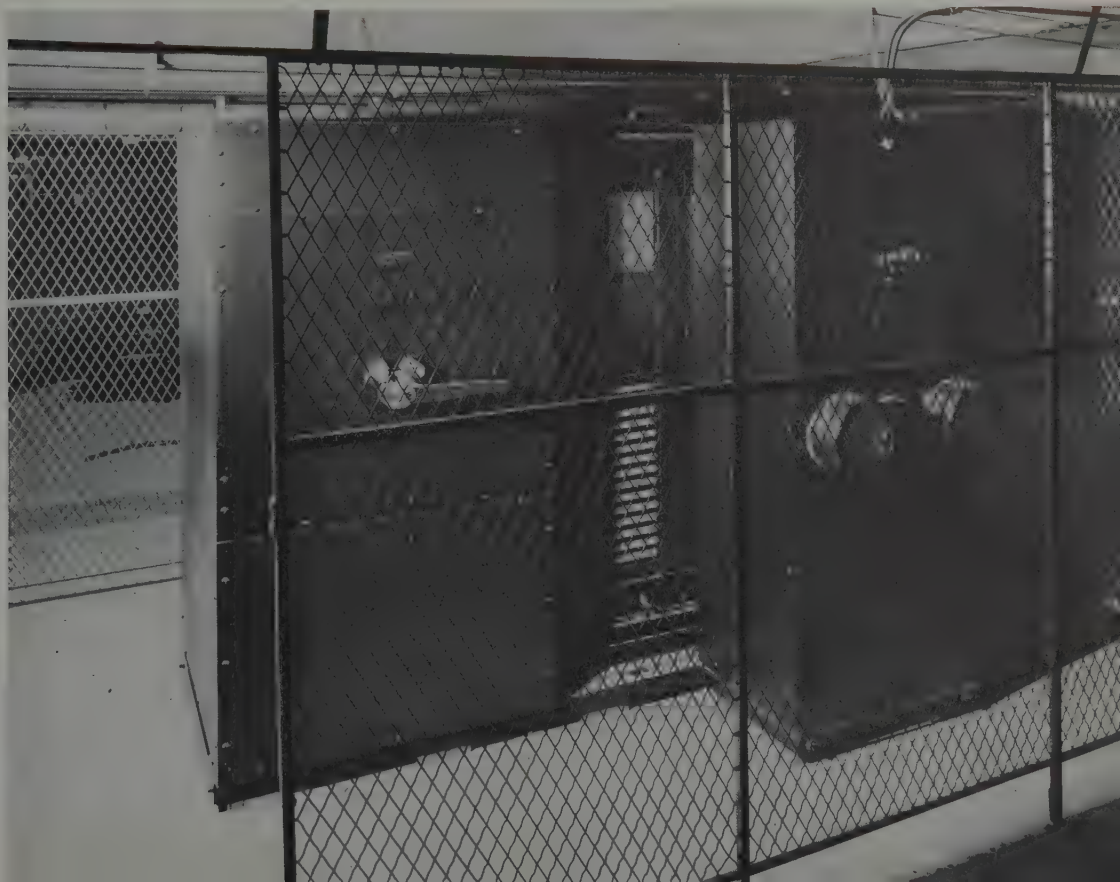
a specially designed wire trough. Knockouts in the trough are located on 6-foot centers for conduit extensions to the troughs on partition walls and under each window for drops to underfloor ducts feeding isolated machines on island benches.

Chases in the central columns serve as points for the distribution of the lighting system current. Lighting changes required by any rearrangement of partitions consist only of revamping of switch legs.

Emergency lighting for the exit signs and stair halls as well as emergency power for the boilers, is automatically energized, upon a failure of regular power, by the starting of a steam turbine in the boiler house operating a 40 kw generator.

Physical laboratories have a generally distributed 120-volt D.C. system. Motor generators, located in the attic, feed a bus duct system at outside walls, which in turn feed drops to various laboratories in much the same manner that the A.C. system is handled.

The power distribution is by means of the load center system. The 4,150 volt feeders carry current to nine 200-kva air-cooled transformers in groups of three. Each of the groups feeds a ring of 120-208 volt conductors. At each central column, alternate sides of the ring are tapped. At left, high tension switch gear; at right, low tension switch gear





Devices used in installing pipes and services on demountable steel partitions. In order to accommodate shelves, blackboards, or service supports, a keyholed device may be inserted between any 2 panels on 6" centers. The basic unit, at right, is supported between two panels and concealed by an expandible cover.

SUBDIVISION OF FLOORS. One of the most significant features of the building is the subdivision of floor areas by metal panels 4 feet wide and 10'-8" high, or the full dimension from floor level to the soffit of floor beams and girders. Each panel is 3 inches thick and consists of two layers of 20-gage metal separated by rock wool, which makes the panels very fire resistant and satisfactory as to sound transmission. The corridor walls are also made of the subdivision panels, which are interchangeable with panels equipped with doors and transoms where these are needed, providing a satisfactory method of quickly and conveniently changing a floor layout.

Permanent interior walls around the elevator shafts are 6 inches thick and of cinder block construction. These walls are entirely faced with 20-gage metal of the type used for wainscoting, except in the toilets, where tile is used.

HEATING SYSTEM. The heating system is of the vacuum type with differential con-

trols, for each of ten zones. Each principal wall surface having a similar exposure is a separate zone. The radiators within any one zone are controlled by nine integrating thermostats, a windowstat, and a heat balancer. Minor differences in demand upon the individual radiators are corrected by means of an adjustable orifice at the radiator valve.

The Boiler House is equipped with two 230 BHP straight tube boilers generating 125 pounds. The mains distribute at this pressure to the point of use where it is reduced in two stages to 5 pounds for use in water heaters and heating system. The steam for laboratory use is available at 125, 50, and 5 pounds.

The room in which the control desk is located has a large panelboard on which are mounted all of the heating zone control units and ventilation controls.

Ventilating equipment for the chemistry section is housed in the attic. Every laboratory is provided with supply and exhaust. By developing a slight negative pressure within the rooms, the chance of odors penetrating the corridors and other portions of the building is lessened.



Ventilating equipment for the chemistry section is housed in the attic. Since most of the laboratories are equipped with fume hoods, the exhaust is usually through the hood, carried through 12" round pipe and grouped in the attic with a common fan for each group. Blank tees in exhaust ducts are for the installation of booster fans where extra exhaust velocity is needed in any given laboratory. The square ducts are the supplies which furnish air to each laboratory. Note the service mains near the eaves which carry gas, oxygen, hydrogen, nitrogen, distilled water for down-feed distribution

The lighting fixtures are a stock type combining great efficiency with ease of maintenance. All of the fixtures may be relamped from the floor. There are no horizontal dust-collecting surfaces and no glass to break or to wash. Inserts in the ceiling slab permit the support, by means of hangers, of wire ducts as shown in this view, or of other equipment. Acoustic treatment occurs in such areas as is required by the use of the various rooms — various rooms having partial, complete, or none







Entrance front of Acoustics Laboratory. Princeton stone with limestone coping, brick walls beyond, copper roof. Back of the center glass screen is a large foyer. The plan and section illustrated at the lower right is of the Listening Room and Auditorium which is a part of the Laboratory Building

ACOUSTICS LABORATORY

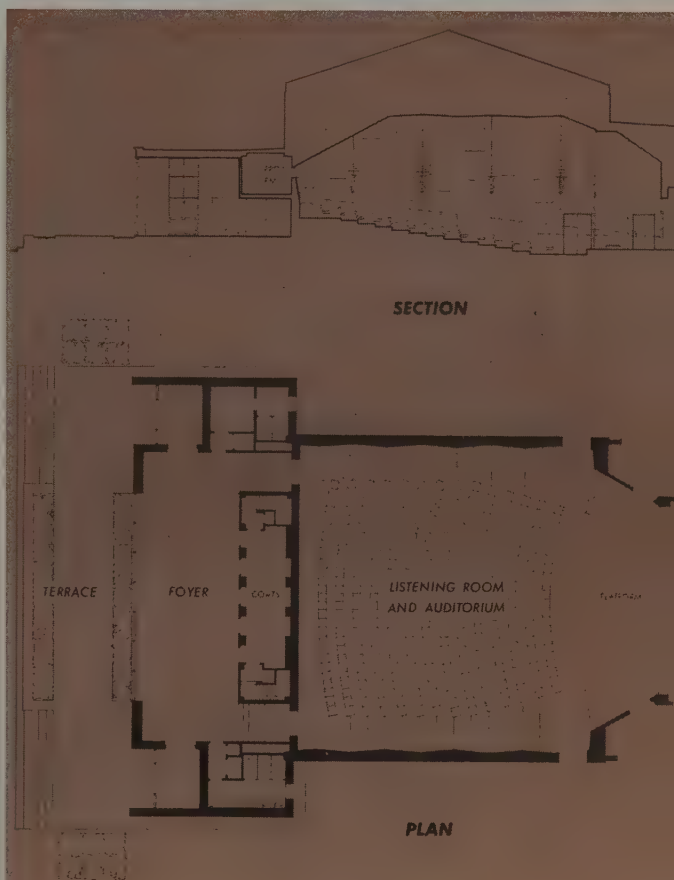


THIS building consists of three major elements, each with its acoustical laboratory space: the dead room or response measuring room, the two live rooms or reverberation chambers, and the listening room.

The dead room is a forty-foot cube built of masonry, in which has been constructed a room with fabric walls, floor and ceiling suspended in 30 layers of varying degrees of separation. Measurements are made electrically in the adjacent laboratory area of sound sources created from the center of the room. For this purpose, a track, suspended from the ceiling, connects with the second floor of the laboratory area and carries a car on which may be mounted loud speakers, a piano or other sound source. The entire structure is isolated from the main part of the building by double bulkhead doors and a four inch air space. At the doors this gap is bridged with rubber head, sill and jambs.

The reverberation chambers are similarly isolated. In these rooms test panels of materials are placed in an opening between the two and measurements of sound transmission are made.

The listening room is not only a laboratory, but has the additional function of serv-





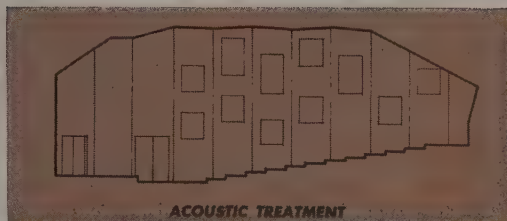
Looking from the Acoustics Laboratory foyer through the glass screen toward the main buildings. This foyer serves the double purpose of an entrance motif for the auditorium as well as an informal meeting place before and after demonstrations which may take place within the Acoustics Laboratory.

ing as an auditorium for scientific lectures and meetings. It is equipped with the necessary lobby, toilet and coatroom facilities. Over the coat room is a small projection room.

The room seats 363 persons and since in the meetings for which the room is designed there are usually late arrivals as well as frequent intermissions, it was essential that there be a minimum of disturbance. To this end, the so-called continental or European seating plan was used with 27 seats to the row. The seats are spaced 3'-6" back to back. Each row is on a separate step, which produces exceptionally fine sight lines. Seats

are so padded that the sound absorption is essentially the same when the room is empty as when there is a capacity audience.

Inasmuch as the room would be used not only by relatively inexperienced public speakers but for experiments in stereophonic sound, it was agreed that the room should be as resonant as possible without annoying reverberation. In accomplishing this objective, the Bell Laboratory engineers worked in close cooperation with the Architects in the spotting of absorption areas and the arrangement of planes of reflection. The entire area of the rear wall and the adjacent



In the wall panels, varying assemblies of 18 x 18" absorbing materials are indicated by the rectangles. Each rectangle consists of perforated squares which are backed up with low frequency absorptive elements. It should be noted that the disposition of the rectangles on the opposite walls is asymmetrical. The rear wall of the room and part of the ceiling are entirely treated with 18" perforated squares of triple-tuned material

1/4" plywood on the room side and 1/4" asbestos cement board on the unfinished surface were secured with drive screws. The hollow portion of these panels were packed with mineral wool.

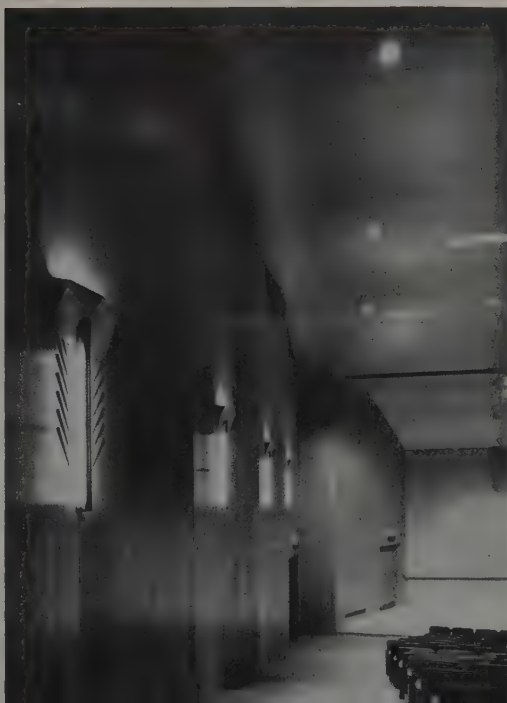
The wall separating the platform and the adjoining laboratory had to be fire resistive and at the same time be readily removable for the installation of experimental amplifiers. This wall is constructed of a steel frame supporting cloth of considerable acoustical transparency, back of which are placed 3" double faced steel panels packed with

A photographic study of the side wall in the theatre to show the wall panels set in zigzag position for the acoustic control of sound foci

ceiling were treated with "triple turned absorption" elements mounted behind panels of perforated wood. The side walls are treated with "low frequency" units similarly mounted. However, the placement of these treated areas are asymmetrical. Approximately one third of the side wall area is treated.

Equally as important as the absorption areas are the splayed wall surfaces, which break up the reflections. The rear wall is sloped away from the seats, while the side walls and ceiling are divided into seven foot panels, which alternately slope toward the front and rear at one inch to the foot.

The hung ceiling is constructed of a two inch wood frame subdivided by 2" x 2"s into small panels of unequal areas. On this frame





The walls of the theater (photograph above) are natural finish "cigar-box" mahogany, the fabric on the seats is a light gray-green. The aisles here are carpeted in steel gray, and the floor underneath the seats and the remainder of the floor is covered with natural cork—providing a warm setting which is interesting without being distracting



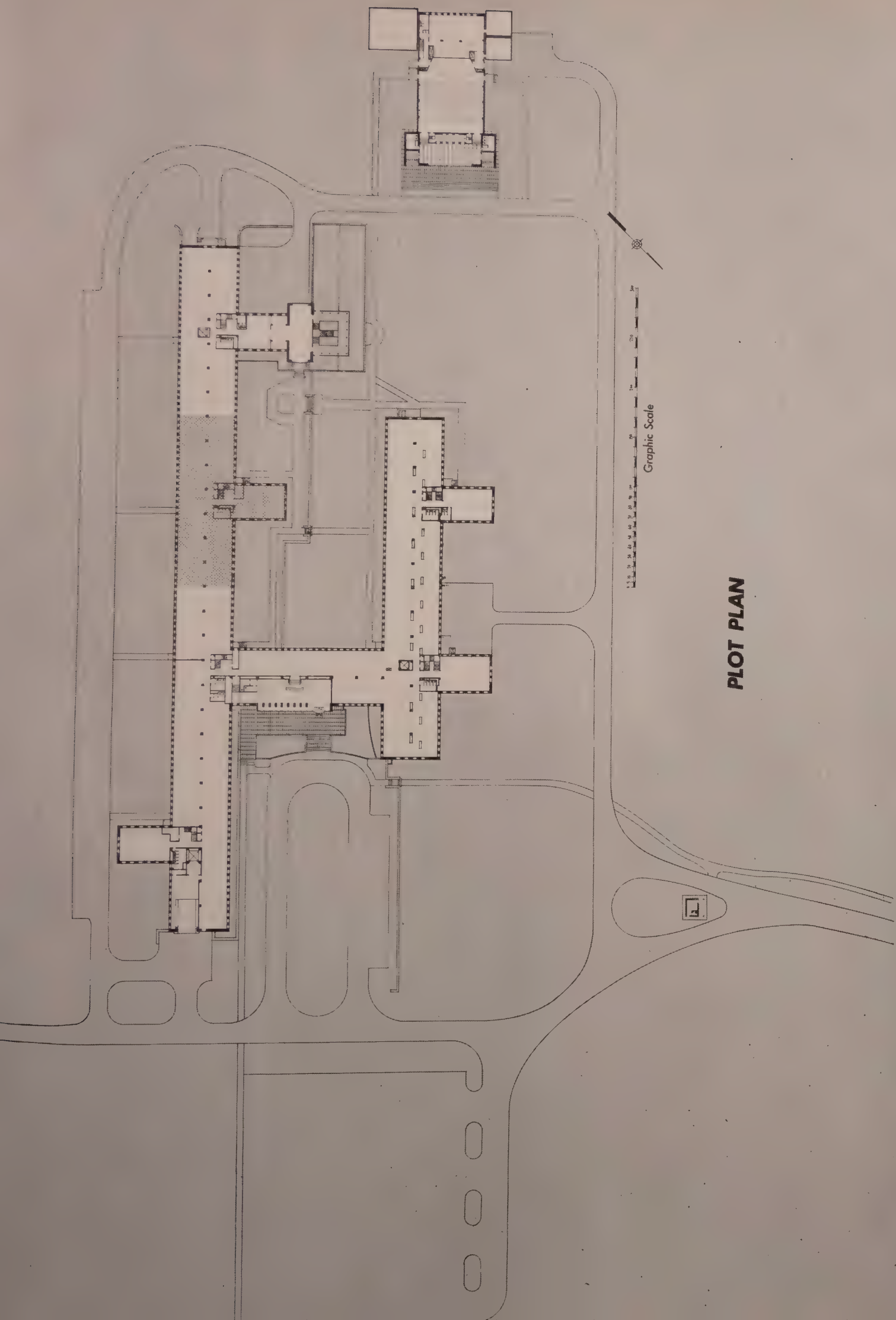
mineral wool. The steel panels approximate five feet by four feet. The laboratory engineer may thus install speakers over the entire area without affecting the appearance from the auditorium side.

Visually, the room is pleasant since the side walls do not converge upon the listener, even those seated near the extreme side near the front.

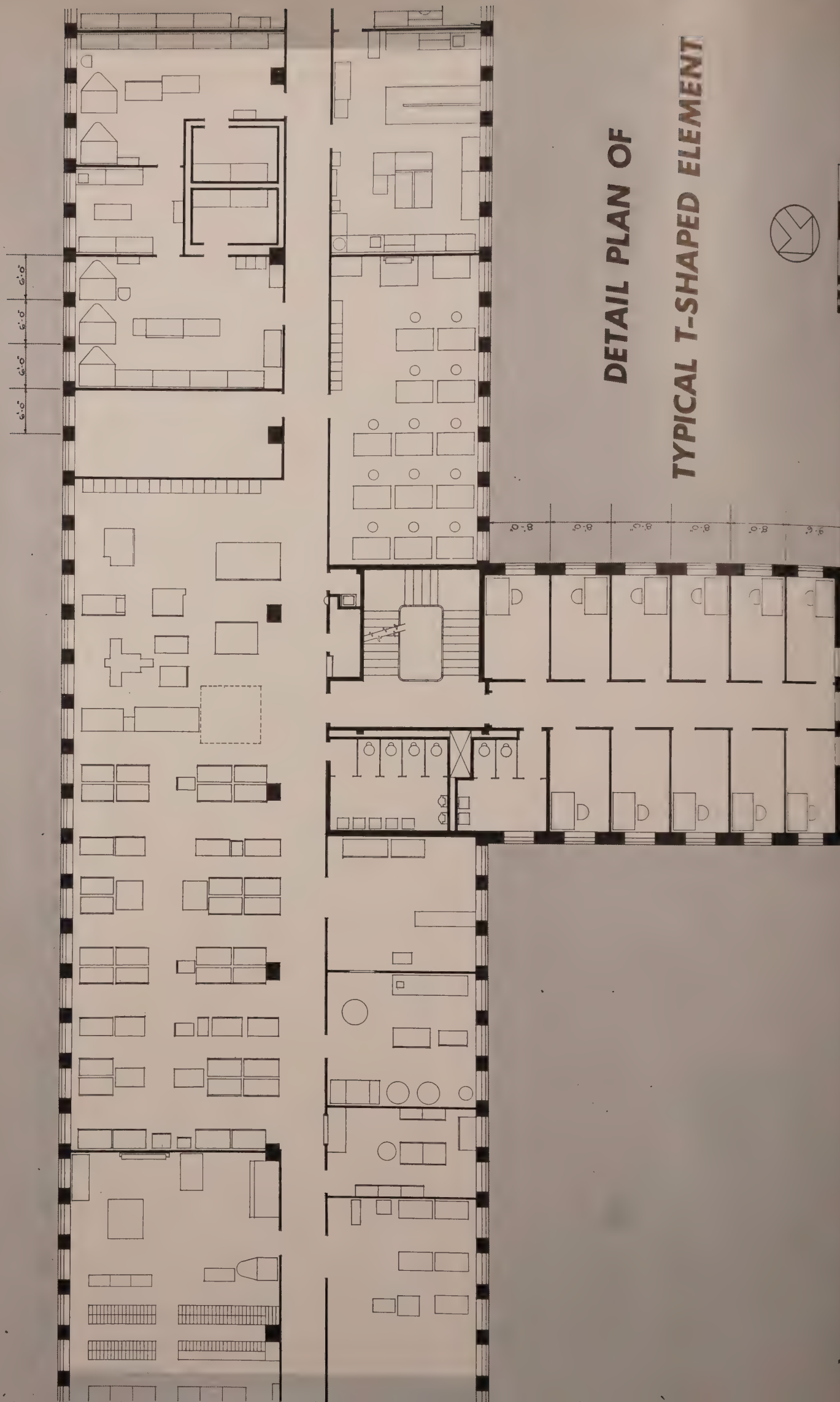
Decorative side lights break the monotony of an otherwise simple room, while down lights provide sufficient illumination for the purpose of making notes. The lecturer is lighted by means of spots in three groups at the ceiling. Footlights as well as a high stage were avoided to enhance the feeling of informality.

At left is a detail of the lighting fixtures on the side wall. The source consists of double Lumiline lamps with plastic shade supported on a metal frame. The chevron detail is obtained by pieces of wood raised slightly from the surrounding wall surfaces. The hopper serves as ceiling illumination

Cut-away section of Laboratory Building showing the various service facilities available in individual laboratories, the disposition of the ductwork, and the arrangement of the 6 foot module unit (see story on page 36). The blue color indicates the supply and exhaust air for fume hoods, while the red lines indicate the location of laboratory service lines



PLOT PLAN



**DETAIL PLAN OF
TYPICAL T-SHAPED ELEMENT**

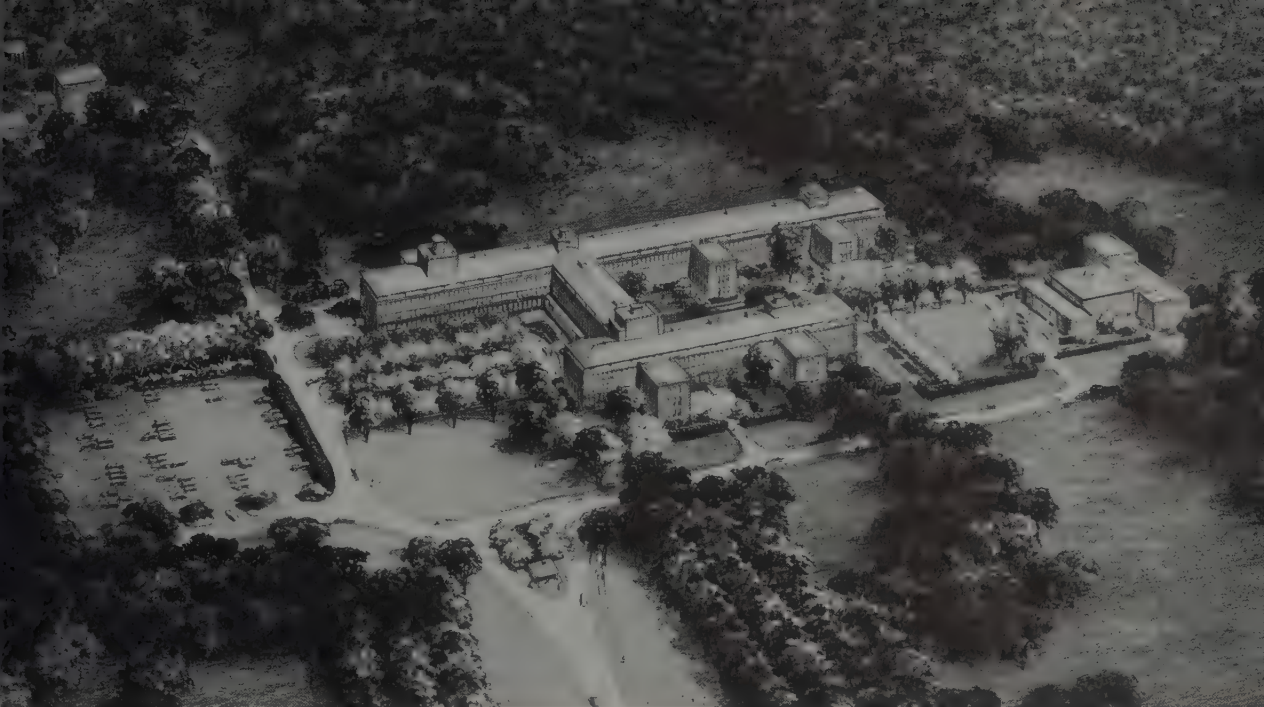




GENERAL DESIGN

The extent of the new research laboratories for Bell Laboratories, Inc. is well suggested by the bird's-eye perspective drawing by Chester B. Price and by the general photographic view from the north shown below. The disposition of the laboratory wings with their appended office wings is clearly evident on the drawing as well as their relation to the separate acoustics laboratory building. Strong individual character is provided by the distinctive form of the striking brick head houses which occur at each stair point and also by the rhythmic quality of the fenestration, which of course was dictated by the frequency of the vertical piping and wiring systems. The warm and pleasant color of the brickwork and the texture afforded by the special-size brick leave a strong impression in the visitor's memory. A light and graceful gate house shown above at the left permits full control of visitors approaching on the entrance road





This photograph, taken before the landscaping was completed, fails to do justice to the final effect in which shrubbery and trees will add their ever-changing color to the composition



Employees coming to the cafeteria and restaurant pass directly from the first floor of one of the office wings into an attractive lounge and solarium whence an interior stairway leads to the lower level. This view shows clearly the relationship of parts. Access is also provided from outdoors at the cafeteria level





Another view from the roof of one of the laboratory wings explains more fully the relationship of the employees' lounge and cafeteria with the main buildings and the large court between

The one-story cafeteria building is distinguished by beautifully laid Princeton stone walls crowned with a simple and delicate deck railing executed by the late Samuel Yellin. Note the Belgian block road curbing, sloped except at paths. A roomy service court lies to the right





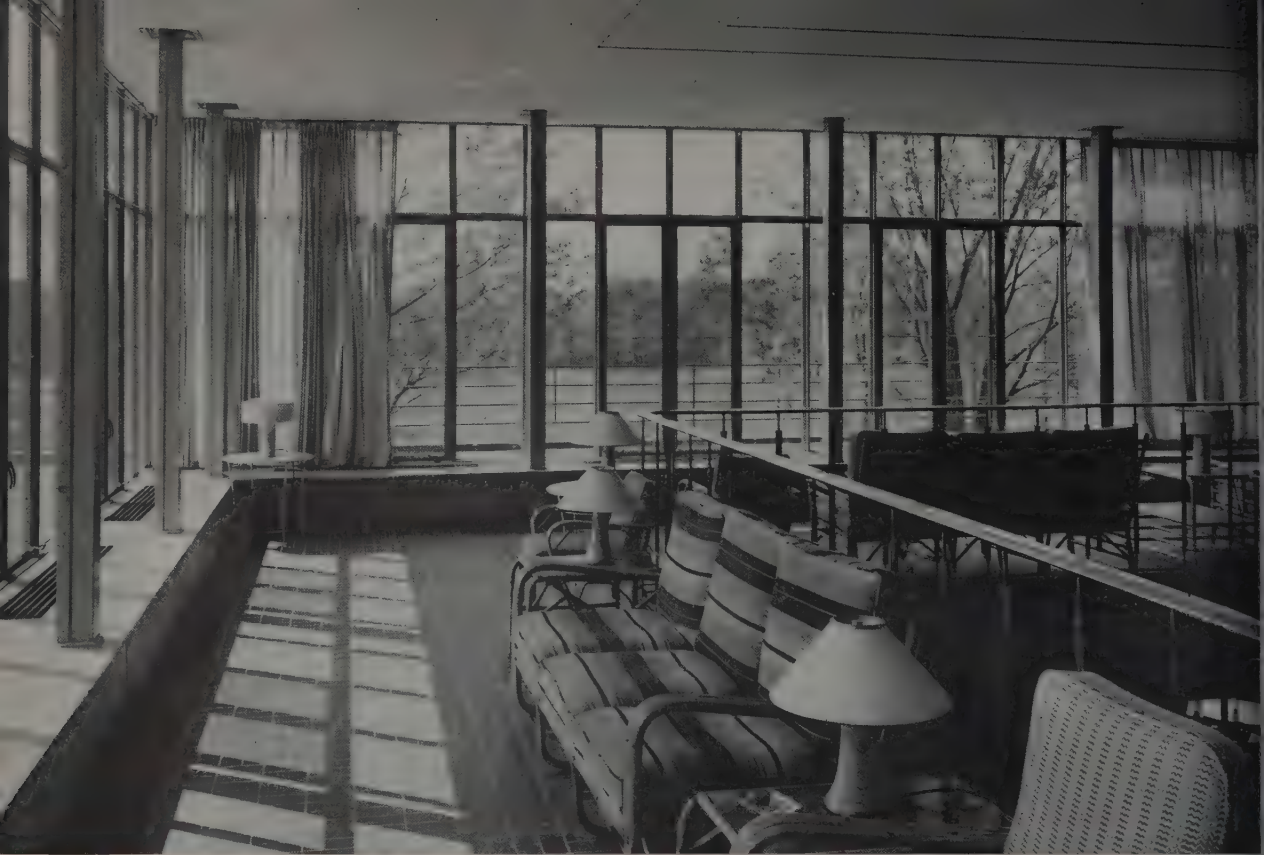
A more complete view of the reception lobby shows the granite steps flanked by slabs of the same material leading to the laboratories. Walls on three sides are straight-grained white oak finished practically raw with a sealing lacquer coat, rubbed



Inside the main entrance lobby the column enclosures are of sheet metal units finished in Indian red. The floor is of $\frac{3}{4}$ inch red tile squares in broken pattern with wide terrazzo strips. Ceiling, including lighting coffer, is treated with acoustic tile. This makes a spacious and comfortable reception room which will accommodate groups of visitors waiting to be taken into the laboratories

The exterior treatment around the main entrance is simple. The building is faced with limestone up to the attic floor level and the light canopy over the large glazed area is roofed with copper. The glazing is large panes of double thickness glass in fixed steel sash. A bluestone terrace with Princeton stone retaining walls makes a graceful transition from the road to the building





The stair well leading to the cafeteria is surrounded by a sunny lounge space furnished with comfortable rattan furniture upholstered with gay stripes. The floor is red tile and the ceiling natural-color acoustic tile. Note the square columns, supporting only the roof, which are built up of steel angles and plates welded together. The paved deck outside is accessible.

Below is the employees' lounge with dark brown linoleum floor, olive green rug, butternut woodwork, and natural acoustic plaster ceiling. On the facing page is a view looking down to the cafeteria level. The ornamental railing of wrought iron and brass is by the late Samuel Yellin. The handsome special fluorescent fixture has vertical tubes of clear plastic—a modern version of the crystal chandelier.







The cafeteria stairs are of red tile and the wall surrounding them, together with the supporting stringer, is blue. The floor at the cafeteria level is a darker shade of blue. Below appears a corner of the serving table for the restaurant





The restaurant portion as seen looking out from the conference dining room through a pair of special five-leaved folding doors of oak. Below, a general view of the well-lighted cafeteria which is acoustically treated. A butternut plywood screen running along the service counter gives privacy and cuts off the clatter of dishes and trays

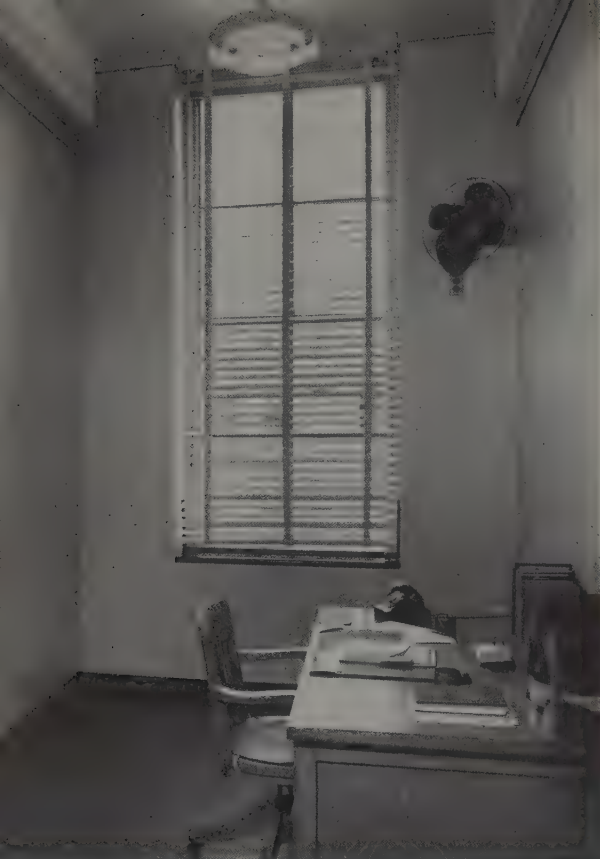




The adaptability of the 6-foot module is shown in this view of the drafting department. Each row of tables is well lighted by natural and artificial light. The typical laboratory building stair opposite is distinguished for its simplicity. Extra high steel balusters, painted tan, carry a natural wood handrail







At left above is a typical small office for an individual research worker. At the right is one of three conventional entrances which occur on the east side of the laboratory building. The same type of welded steel posts used in the lounge occurs here also as support for a light plywood, copper-covered canopy

MATERIALS AND EQUIPMENT

Footings, Foundations	REINFORCED CONCRETE
Terraces	BLUESTONE
Waterproofing	Fabric covered, 5 oz. copper (spandrel)
Wall Construction	11 3/8 x 1 3/8 x 4" BRICK, backed up with sand lime brick. Limestone trim, sills
Floor Construction	REINFORCED CONCRETE with concrete nailers
Roof	STANDING SEAM COPPER; BUILT-UP
Roof Insulation	Vapor sealed RIGID INSULATION; gypsum plank
Windows	DH STEEL CASEMENTS with DH screens; DSA 3/8" plate glass; also polished wire glass and insulating double glass units
Floor Finishes	ASPHALT TILE, LINOLEUM, TERRAZZO, TILE, CORK, CARPETS
Interior Wall Finishes	METAL WAINSCOT, LATH AND PLASTER, TILE, WALL PAPER (Cafeteria Lounge); steel partitions
Plumbing	Copper, brass, galvanized, black steel, and cast iron piping; copper, cast iron, and galvanized fittings
Heating	Wrought iron piping; OIL-FIRED STEAM BOILERS; cast iron radiators
Ventilating and Air Conditioning	Galvanized iron, tile, asbestos cement, and asbestos ducts
Electrical	Rigid conduits, air-cooled transformers, standard laboratory lighting fixtures
Acoustic Treatment	METAL PAN (Offices), ACOUSTIC TILE (Reception Room and Cafeteria), PERFORATED CEMENT BOARD
Laboratory Services	Aluminum piping, fittings, stills (DISTILLED WATER); black steel piping, cast iron fittings (COMPRESSED AIR); black steel piping, regulators (GAS); tile and galvanized pipe and fittings (DRAINS); copper piping and fittings (VACUUM); copper piping and fittings, brass manifolds (HYDROGEN, OXYGEN, and NITROGEN)



A typical laboratory corridor which shows clearly the standard metal wall units and also the method of lighting. Corridors in chemical laboratory are equipped with emergency shower heads for extinguishing burning clothing. These occur at 48-foot intervals and operate by pull-chains within easy reach



Group photo (front row, left to right): Harold Alt, Stephen F. Voorhees, Ralph Walker, Charles Haines; (back row) Victor Hugo, Thomas Christiano, Richard Backus, Benjamin L. Smith, Cecil Cady. Photographs at right show: J. G. Motley and M. B. Long



The idea of a functionally designed laboratory unit in rural surroundings near New York City has been for years both a dream and a project of Dr. F. B. Jewett, formerly president of Bell Telephone Laboratories and now chairman of its Board of Directors, and Dr. O. E. Buckley, formerly its director of research and now its president.

When it was finally decided to start the work at Murray Hill there was formed in the Laboratories a special department—"the Murray Hill Project Department," headed by M. B. Long. Associated with him was J. G. Motley, Laboratories Construction Engineer, who initiated and programmed the design and who has guided with brilliance the detail throughout. Also associated with Mr. Long was E. V. Mace, who was responsible for space assignment. This team, which represented the Owners in relations with Architects and Builders, had as their background the results of studies by previous committees of engineers and scientists in the Laboratories.

The design of the present laboratory building was a complicated technical job requiring the teamwork and cooperation of many abilities. The representatives of the Laboratories, the partners of the architectural firm, the architectural and engineering de-

signers, and the builders, John Lowry, Inc., of New York City, together have created, we believe, a result that is an example of sound architecture. S. F. Voorhees and Ralph Walker (at times being pinch-hitted for by Max Foley and P. S. Smith) coordinated the Owners' needs and gave constant direction to their organization to achieve the finished result.

The project manager from the start was Charles Haines, upon whose patience and knowledge all have leaned.

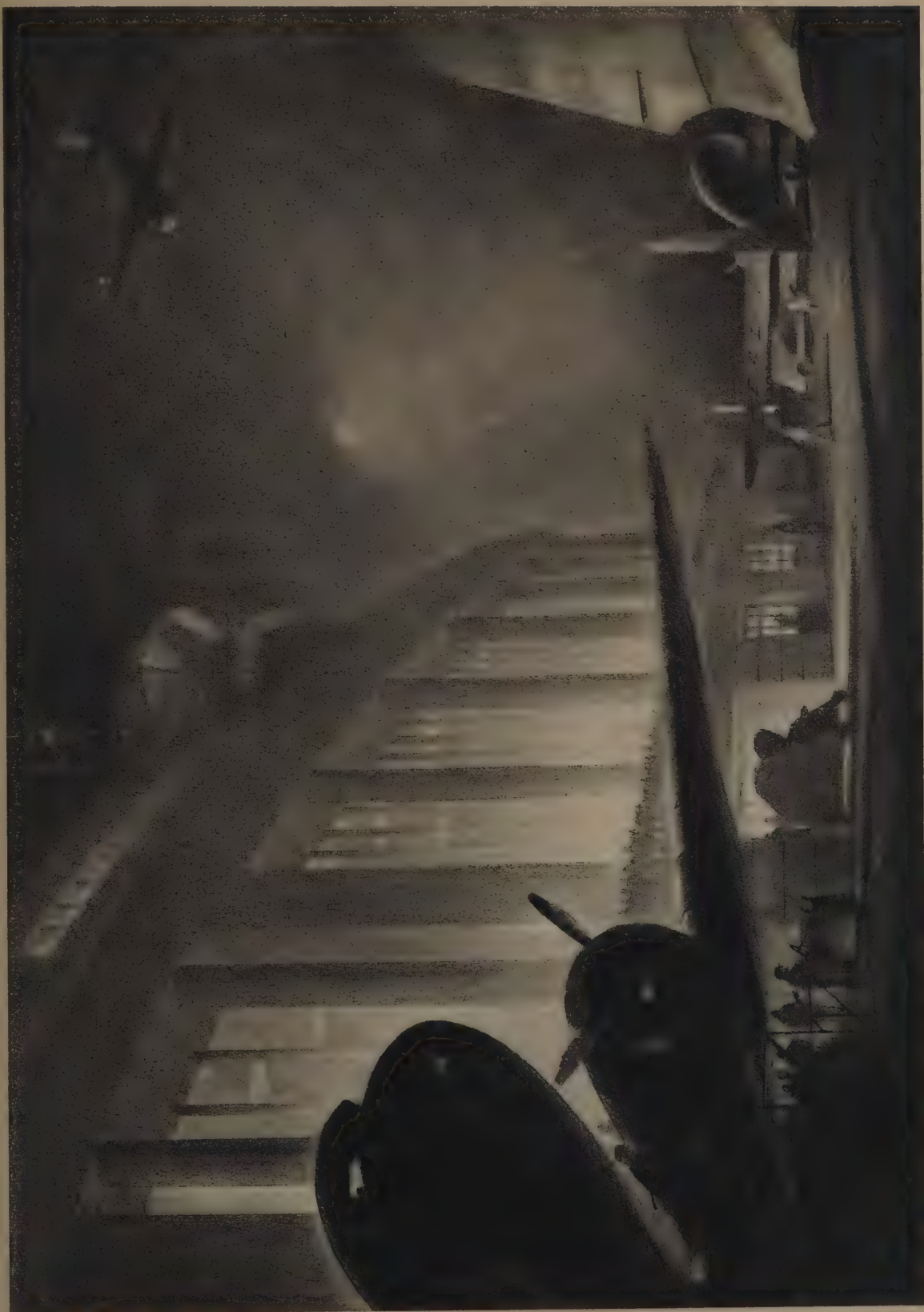
The architectural design was greatly accelerated by "Ben" Smith and "Vic" Hugo. The structural design was the responsibility of "Dick" Backus, who treads new fields lightly. The electrical engineering, most difficult and most essential to the needs of the Laboratories, was guided by C. T. Siebs of the Laboratories, and Cecil Cady of the firm. Harold Alt, mechanical engineering designer, helped to achieve a regularity and accessibility which the architects believe to be their own brand of order. It was "Tommy" Christiano's hardboiled job to see that the work got done, and that all the branches of engineering were coordinated on drawings. "Jerry" Gherardi, who started as superintendent of construction, resigned to take a commission in the Navy.

R. W.



Close-up of cafeteria entrance. Limestone trim, and copper lighting fixture. Semi-circular platform of bluestone

BE
SYS



NATIONAL AIRPORT

The Brunner survey was to include buildings of the country's transportation systems—therefore, airports—therefore, the National Airport which (with LaGuardia Field) is the outstanding accomplishment to date. With permission of the Airport management, and accompanied by a guard, sketches were made, during one day, from various viewpoints; however, the choice of a night view had been predetermined upon seeing the Airport, on a fine, clear night, from an approaching plane. It was somewhat inconvenient to complete the night sketch on the chosen spot (on the apron) because of shifting lights and traffic movements; however, by working rapidly and making mental notes, it was possible to forward the sketch in the building, returning to the viewpoint two or three times to check with the actual scene.



The sketch was made with a Pluvius pencil on a piece of tracing paper, 12" x 16", which, with other sheets, was clipped (at all four corners) onto a stiff backboard of the same size. At the studio, on another day, the final drawing was lightly laid out, 16" x 22", following the general lines of the sketch. This final sheet was thumbtacked onto a drafting board set on a drawing stand at convenient angle for work, sitting down. The other sketches of airplane details, etc., were thumb-

tacked alongside and the final drawing was carried on, relying on one's memory for general tone, and using Wolff crayon, H to 3B, paper stump, chamois skin, kneaded eraser and kid finish bristol board.

Hugh Ferriss

The Frenzied Functionalist

The functional approach to architecture is now so well accepted in theory that we have already become tired of the word functionalism. We are all functionalists. We sneer behind the moustaches that we grew as Beaux Arts students when a client speaks of the Cape Cod design that he knows he likes although he knows that he knows nothing about Design, and we steer him cleverly into a discussion of open plans and esoteric materials. Of course we end by designing a Cape Cod cottage suggested by that swell house in our favorite magazine a couple of months ago, but we have the satisfaction of knowing that at heart we are functionalists.

Sometimes the procedure of being modern is nerve-wracking. I have watched an architect, his fingers twitching, sternly restrain himself from outlining (I almost wrote tracing) that so subtly correct walnut dado cap, while he recommended a linoleum wainscot. He did not relent until the client pleaded with tears in his eyes. The sense of having done right was, I fear, no compensation for the risk that some day some spineless client might accept the linoleum.

Occasionally an architect gives way completely under the strain. A friend of mine is in a ward of that new psychopathic hospital with the glass brick solaria, hurling himself against the stainless steel grilles and screaming something to the effect that, "Reality is super-geometric if human sensibilities in natural elements include the machine concept." I should like to review his case in some detail:

Last year just about this time (I remember N.Y.U. had just announced a course in Building Materials with the Emphasis on Esthetics to prove that it was a real practical school, so it must have been during the winter) John got the job of remodeling a doctor's office. A small job, but a job. His preliminary interview was unsatisfactory because the doctor was a gruff, matter-of-fact person who kept insisting that he wanted "just a waiting room, an office, and an examination room." John was really very patient; he actually let the client talk and pre-

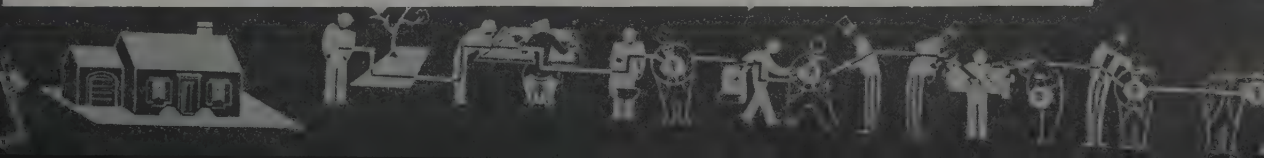
tended to take notes. However, when he got back to his office he called up the doctor's secretary and said that he was gathering statistics for the A.M.A. From her he found out how many patients a day the doctor had, what illnesses predominated, how many patients came on crutches, how many in cars, and what to do for a pimple on his chin.

On the basis of this information John prepared three charts and punctured the pimple on his chin. One chart was entitled "Occupational-Symptomatic Breakdown per Patient-Minute per Space Unit." This was a fairly simple diagram using only two 8½ by 11-inch sheets. The second was called "Age-Sex-Income Analysis on Basis of Employee Work Hour." This was more complicated. The third became so involved that John could find no appropriate title, so he called it simply "Chart—Doctor's Office."

The next step was to disguise himself as a patient, enter the doctor's office and, walking from room to room, record the number of steps that he took. He also studied the movements of the patients, the nurse, and the doctor, and recorded them carefully. Back in his office he prepared, on a double elephant sheet, a Circulation Diagram—a handsome thing which might, under other conditions, have won the Paris Prize. Boxes, lines, arrows, interwoven geometric figures plotted the movements he had studied. (On the third day of this phase of the project he finally decided to ignore a four-year-old child whose movements around the waiting room confused his diagram much too much).

With the three charts and his diagram, John again visited the doctor openly. The doctor thanked him profusely, advised him to have that infection on his chin attended to, and explained that a carpenter had just built his waiting room, office, and examination room. Only a few days later I saw John, and he seemed a little depressed. Last week I heard that he was in the hospital. It occurred to me that it might be well to point out to others what an unattended pimple on the chin may lead to.

THOMAS H. CREIGHTON



MURALS ON METAL

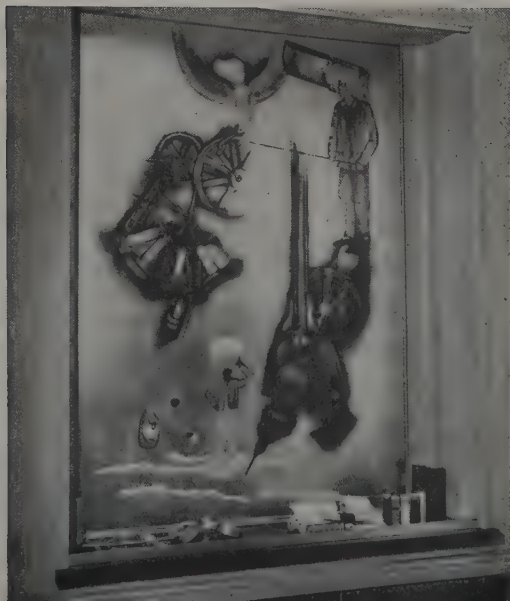
BY HELEN TREADWELL



The murals above and below are on aluminum leaf



The mural below was air-brushed on copper leaf



Commissioned to dramatize manufacture of insulated wire and cable—from the astonishingly exotic raw materials to the completed product—Helen Treadwell has created a distinguished series of murals on metal for the lobby of The Okonite Company, Passaic, New Jersey. The vigor, the freedom, and the superb delineation that characterize these murals may be judged by the reproductions. They are primarily narrative but also reflect the importance of an industrial concern essential to 20th Century advance in War or Peace.

The four murals shown here, photographed by David Eigen, represent (left) "Mining Lead: Aluminum Press"; "Tapping and Smoking Para Rubber in Brazil: Calendering Machine: Okonite Strip Insulating Process"; and "Spinning Cotton for Winding Cables: Cabling Machine"; and (across-page) "War." The two remaining murals of the series represent "Oil and Paper" and "Peace," the latter symbolic of the myriad uses of cable in normal times.

Unusual materials, even those generally regarded as "impossible," are skillfully used by Miss Treadwell for her decorative murals. Paints that are little known, plastics and paper of unusual texture, cork, rubber, glass and cellophane, the fabrics, and now metals, have been used as the backgrounds.

For the Okonite lobby murals, which are slightly recessed in wide cases to permit the display of the actual products represented by each panel, Miss Treadwell applied metal foil in thin sheets to Masonite, then lacquered them. Guided by a series of stencils she had cut from ordinary wrapping paper, this imaginative artist then sprayed bright-colored lacquers on the metal surfaces with an air-brush: hence the accuracy in detail, the subtlety of tones, and the jewel-like clarity of the panels. This series represents the latest work of Miss Treadwell, whose commissions have included murals for casinos and hotels and decoration of offices and showrooms.

"War" is the title of the mural across-page, which was air-brushed on gold leaf. It represents the use of insulated cable in all the Machines of War





BY

Julian Raymond

Internationally-known Architect who has won particular notice for his skillful handling of the most familiar materials. His influence also has been projected in recent years through a cooperative group of young architects working with him at his farm in New Hope, Pennsylvania

What is the matter with our times? I would like to know. There is just as much dynamic essence here now as there ever has been, and yet we build after ancient models. We fill our rooms with relics. Who would not rather breathe the living air—than the murky odors of catacombs, garrets full of dust, tattered lace, and ghosts? We still meet from time to time, as we walk in the city, one of those sad relics of humanity who crowns herself with ostrich plumes and drags an 1890 skirt in the dust of the street. We do not envy her costume, but for some reason we still go out of our way to buy secondhand her plush sofa.

This strange dementia of our age—would that you also could see it as the dementia it is—this robbing of tombs and stealing from the past is carried into all forms of architecture. Our Government seems to feel esthetically secure in buildings that represent the greatest plagiarism known to history. Our Senators are **even pleased with them** and it is probable that if we were not at war, and if our national resources were not being spent on healthy out-and-out destruction, we would be elevating more Roman columns. Every ugly stupid thing we do hurts somebody. Think of the millions of souls thwarted today by the products of our **unthinking** designers.

Architecture is not creative **only** in the sense that it exists where there are dynamic, living organisms to create it. It is also creative in the sense that it **creates and forms the souls that live in it**. I have noted recently a great change in the work, especially in the attitude, of the younger generation of architects. When I am called in to see the work of students, I find every single one intent on venturing into the new world. They are ready to learn, to sacrifice, to tackle anything! Are the established professional men just going to sit back, literally and figuratively, while the new world soars out of their sight? **I wish that I might make the fact of**



Atop the dunes on the South Shore of Long

modern architecture so true and so desirable that those of you who are sold on it already will pursue it with renewed fervor; that those for whom it is still questionable will unreservedly make the vow of taking up the new, of joining the army of young souls today marching forward in greater numbers.

Le Corbusier has said that modern archi-



TRUE MODERNISM

Island, near Montauk Point, the house shown here seems lightly poised. It was designed by Raymond

Wright. Architecture is a way of life. What are the characteristics of modern life? What Americans term a high standard of living is based on certain fundamental principles: first of them all, a **sense of the value of freedom**. We wish to think and act as we believe right—without being dictated to! We have ferociously guarded our liberty of thought and

speech and action ever since the first colonist set foot on this soil. We love and cherish our freedom. Another fundamental principle is our **respect for the other man and his freedom**. This has brought us brotherliness, a certain simplicity and frankness of approach. We do not care for pretense. Underneath, we know that we prefer candor to show.



One day, in "unmentionable" Japan, we erected for ourselves a house: to see what could be done if we seized the opportunity to build a structure exactly suited to the life we wished to lead. It was up in the mountains. There was lumber from the neighboring forests, lava concrete from a volcano, and excellent carpenters were at hand. Our building was simple in its solution. Everything was eliminated that did not have a practical purpose. The quality of the materials we used was understood and respected. There was one great luxury, space, for we wished to stretch our limbs after the winter in city quarters.

Our plans were drawn in four weeks, the house put up in six, by carpenters deft, speedy, and understanding. We spent the last week with them, while they fitted the sliding sash and built in a few closets and cases. We had promised ourselves the joy of having nothing about us except objects of immediate utility—and these to be as new and fresh as the house. So the carpenters remained for a few days more to fashion a few chairs and tables of left-over lumber and rope and straw. We went to the nearest village and bought earthen bowls and plates, a few pots and pans. Then we set the table and sat down to eat.

I shall never forget that first meal; the scent of the new wood; that immaculate table of freshly planed hinoki; and the greys and reds of the simple glazed ware upon it. The sliding doors had slid away and the whole plain and distant mountains, ridge behind ridge, lay before us as part of the space we were in. For we were not in a room; we were in a space defined by fine construction. The bearing columns were the grey trunks of chestnut, the roof an interplay of poles of hinoki, the walls and planks of natural cedar. The tin roofing was laid over with a thatch of larch twigs and the roof was like a huge tent in the shelter of which we moved, worked, lived. Bare? Yes, bare like a barn, but full of interest and beauty if you knew anything about quality of design and construction, about the charms of materials, color, light, and space proportion. In modern architecture the only decoration is the construction.



The service wing extends toward the Montauk Point road, shelters the entrance (detail across-page)

We are unconventional. We need only go to a country where we may not speak without introduction, where we must make formal calls, present cards one, two, or three, where we may not drive our own car when calling on people of importance—to realize how happy we are in our simplicity.

In what way does modern architecture express the ways of modern life? You can find freedom portrayed in the span of our bridges, the sweep of our roads, the wealth of materials we have never known and with which we are experimenting daily. Both freedom and unconventionality are to be found in the

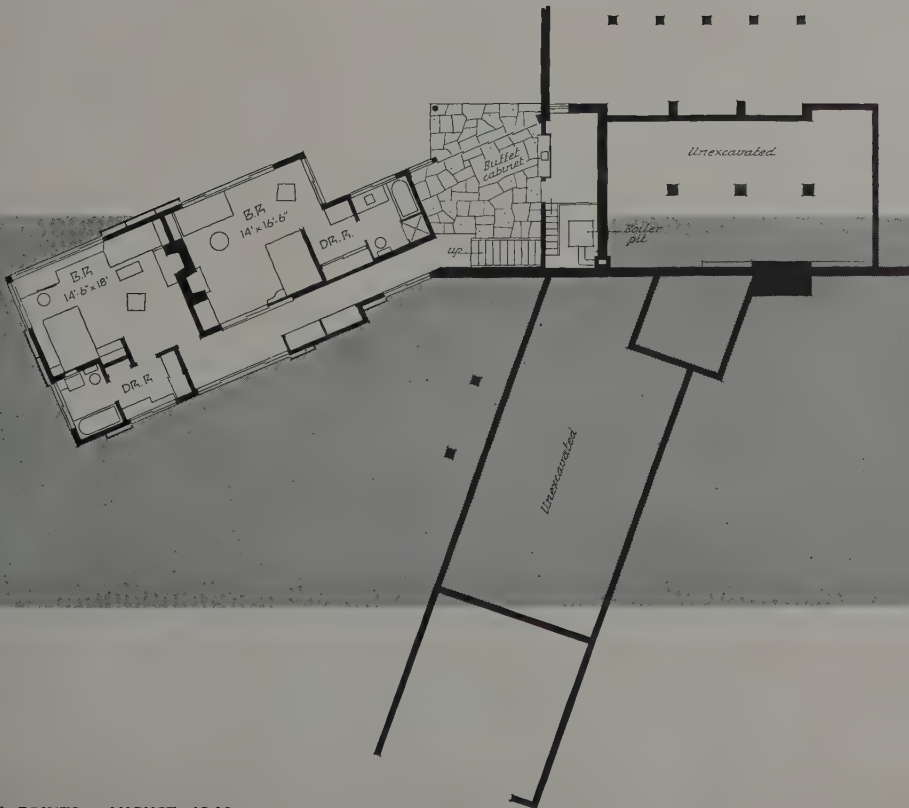
way modern plans are handled, in disregard for the old formalities of proportion and rigid balance. **Simplicity** is found in the stress on serviceability, whether in the matter of construction, of planning, or of use.

Space is infinitely flexible. No longer are we doomed to reside in cubes and cubicles; no tradition regulates door heights nor width of corridors. Some of the most important factors in modern architecture are **flexibility, mobility, adaptation to varied uses**; and I would add that all these elements are capable of creating an atmosphere of serenity and calm, life, mobility, and joy.





"While sitting on a comfortable couch by the fire, we enjoy being able to see the passing clouds. Our freedom has encouraged us in a new friendliness toward the outdoors"





Overlooking the beach, in the angle between the bedroom wing and the main block of the house, is the inviting paved loggia (above and left) which does duty as a STAIR HALL, bar or breakfast porch, and ever-cool retreat in summer. The two BEDROOMS at the same level are shown below and across-page (lower photo)



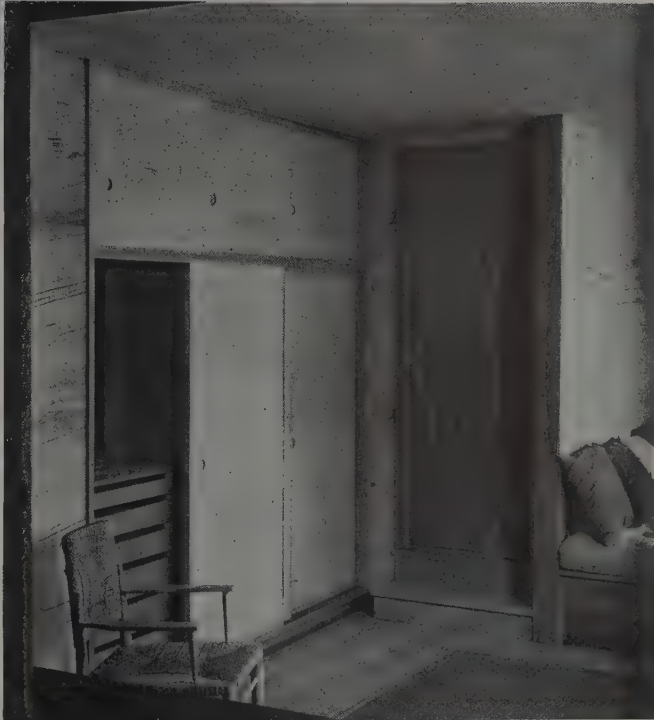
Across-page is shown (top and right) the GUEST ROOM adjacent to the living and dining area, separated from the larger room only by low bookcases and a sliding shoji (see plan on page 76). The broad divan conceals twin beds that may be rolled out when needed. Built-in chest and closets are also concealed by sliding panels, as shown in the detail photo

Most of the beautiful carpentry and those pieces of furniture designed by NOEMI RAYMOND, are the handiwork of EDWARD POSPISIL, who was the contractor for this house. To him the architect gives credit for much of the adroit handling of materials. Notable is the stair (page 81)

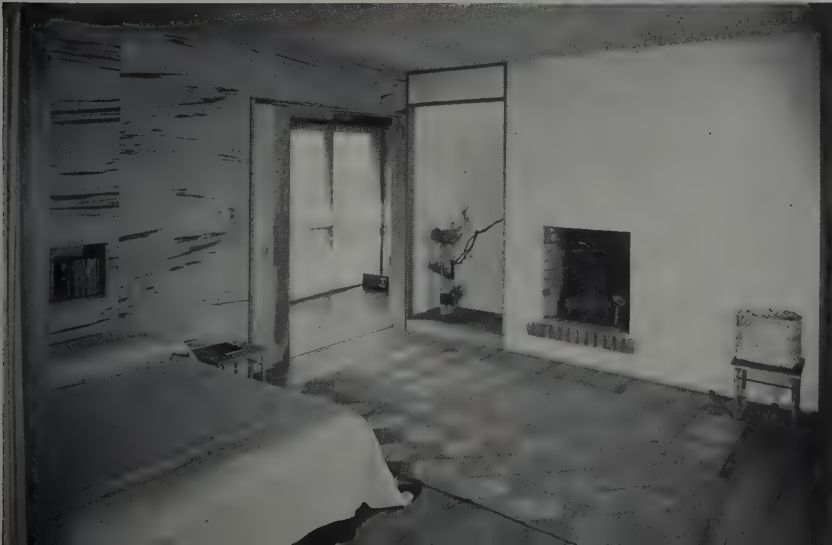


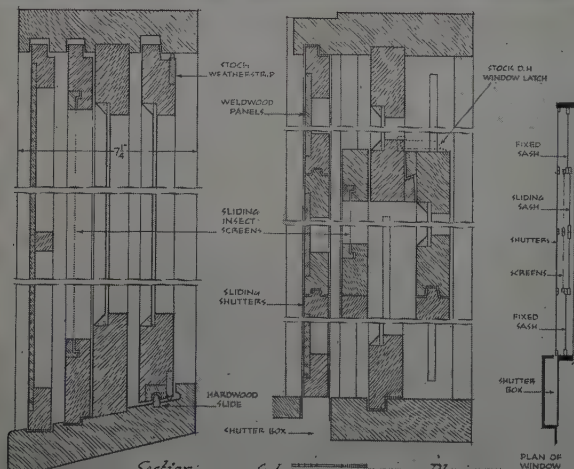
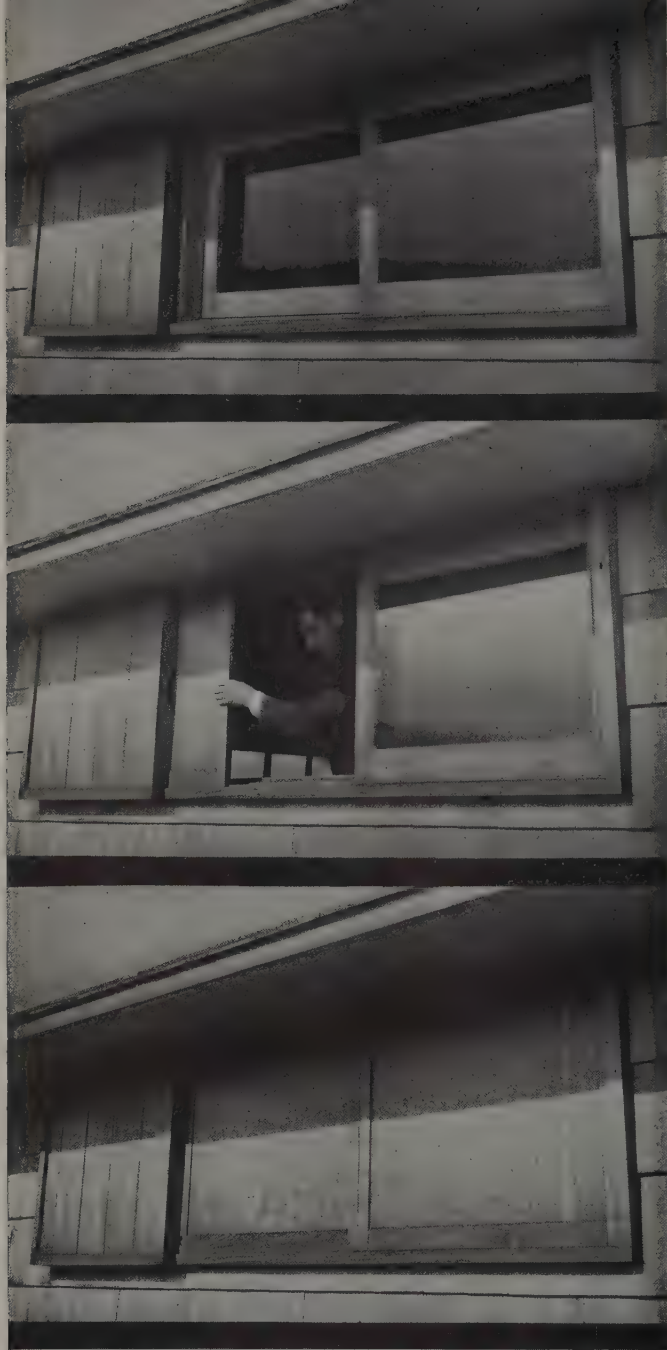


It should be understood that what I mean by modern architecture has nothing whatsoever to do with the pseudo-esthetic refinements that come under the name of Modernistic Style. Nor can its scope in the matter of form be limited. Its simplicity, which is a requisite, should be a natural solution and never an affectation. Why, for instance, is plywood so generously used in modern construction? It is because it is cheaper, practical to use and handle, as well as "right" in looks and feeling. What I mean by contemporary architecture is a **generous, robust, healthy research into the modern way of life and its expression in buildings.** Industrial construction—the great spans across the sea at San Francisco, across the Hudson, the dams and factories, even the highways—enter my **definition** of modern architecture.



PHOTOS BY RODNEY MC CAY MORGAN

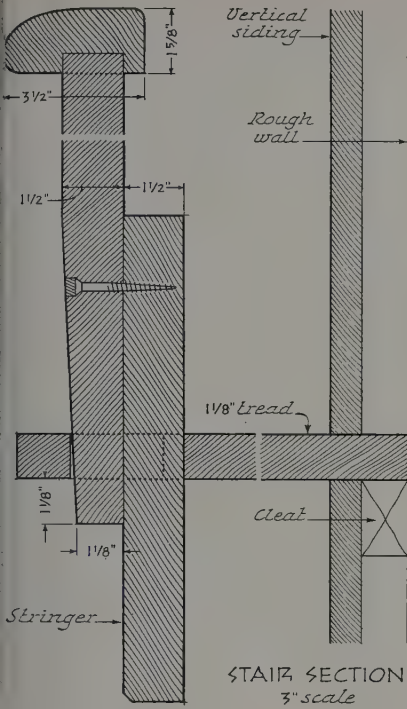




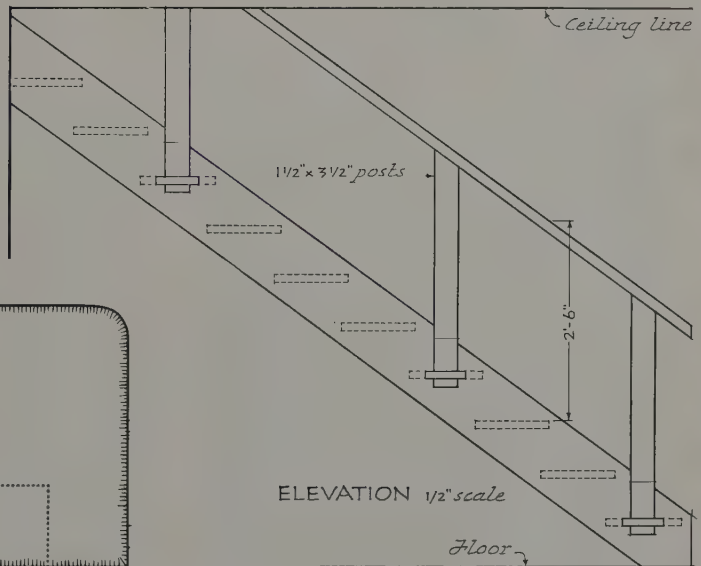
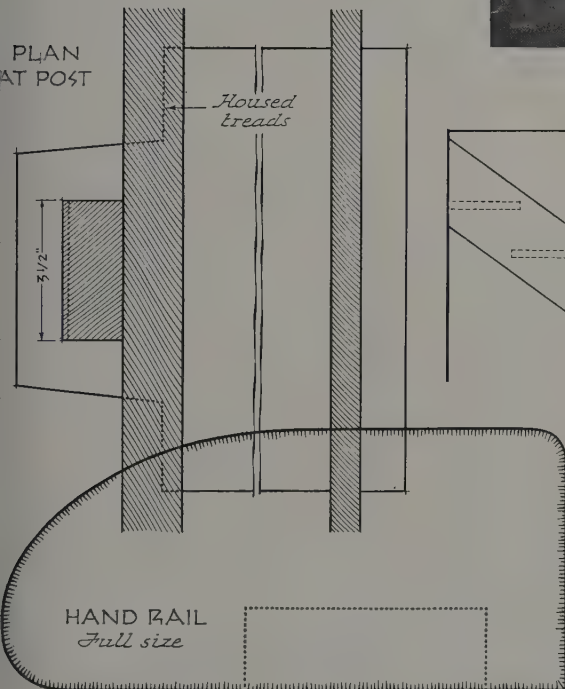
MATERIALS AND EQUIPMENT

Footings	CONCRETE
Foundation Walls	CONCRETE BLOCK and stone
Terraces	2" x 8" planks; flag-stone
Waterproofing	ASPHALT PARGING
Wall Construction	CEDAR SHINGLES o 2" x 4"
Wall Insulation	ROCK WOOL; QUILT TYPE (partition sound-proofing)
Floor Construction	WOOD JOISTS
Roof	Cedar shingled; copper flashing
Roof Insulation	ROCK WOOL
Windows	Horizontal sliding glass windows with sliding insect screens and sliding Weldwood shutters
Doors	FLUSH PANEL (ply-wood)
Floor Finish	OAK (Guest Room, living Room, Bedrooms); LINOLEUM (Bathrooms, Kitchen, Laundry); PINE (Den, Servant's Room); CEMENT FINISH (Kitchen, Boiler Pit)
Interior Wall Finishes	PLASTER AND GUM PLYWOOD (Bedroom A and B); GUM PLYWOOD (Servant's Room, Storage, Den, Servant's Bath, Laundry, Kitchen, Living Room, Guest Room); vertical CYPRESS PLANKS (Stair Hall and Loggia)
Plumbing	VITREOUS CHINA FIXTURES; copper and cast iron pipe
Heating	STEAM; oil-fired
Other Equipment	BUILT-IN FURNITURE, designed by Mrs. Raymond
Electric Wiring	BX cable; recessed fixtures
Ceilings	GUM PLYWOOD
Hardware	BRONZE; BRASS hardware for windows

Window and door openings are all fitted with sliding WELDWOOD SHUTTERS of the type detailed at the left. Since this house at the beach is frequently closed for several weeks at a time, they protect it from marauders as well as storms.



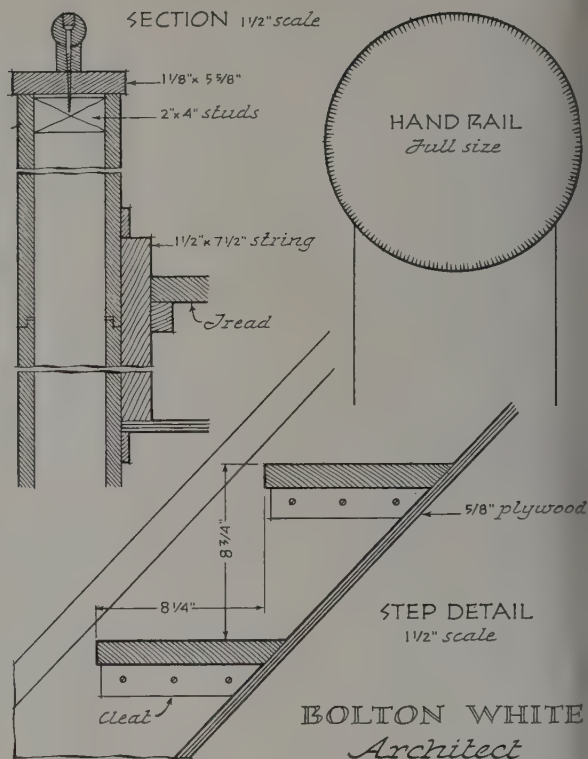
RODNEY MCKAY MORGAN



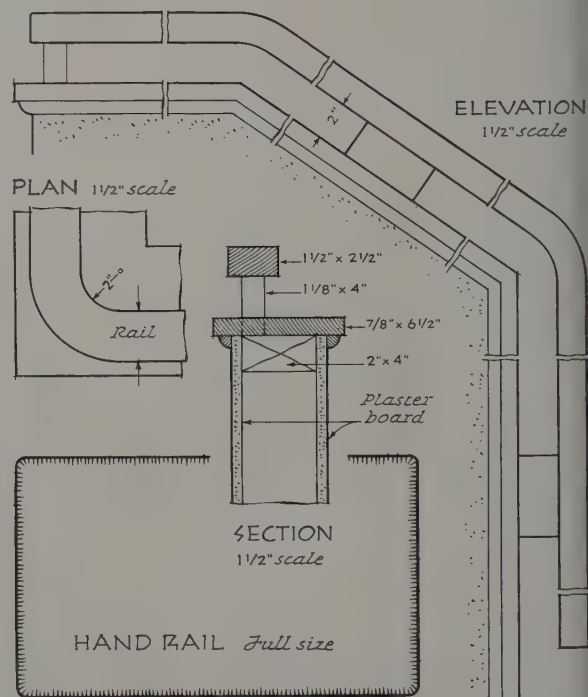
ANTONIN RAYMOND *Architect*



ESTHER BORN



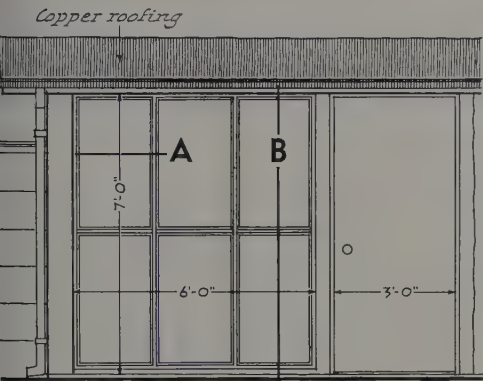
GEORGE H. VAN ANDA



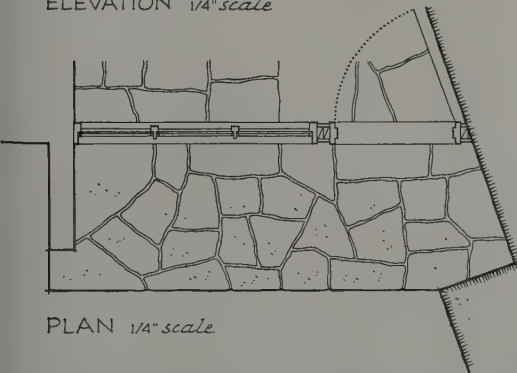
VAHAN HAGOPIAN Architect



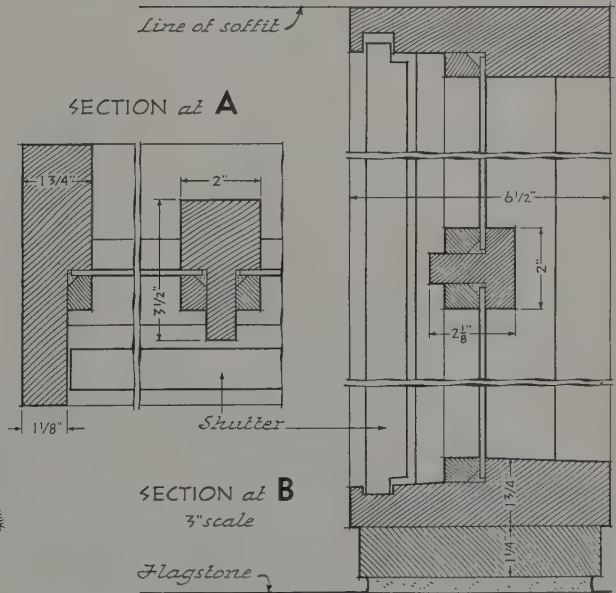
RODNEY McCAY MORGAN



ELEVATION 1/4" scale



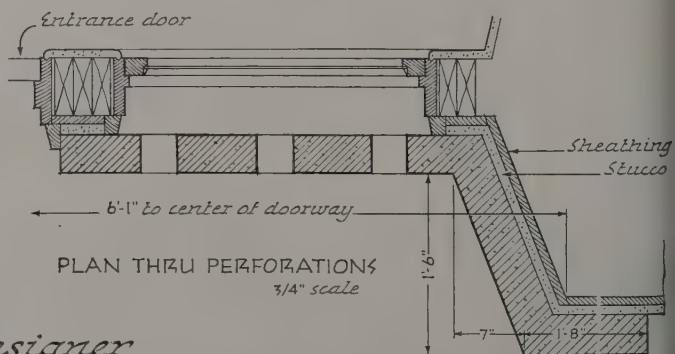
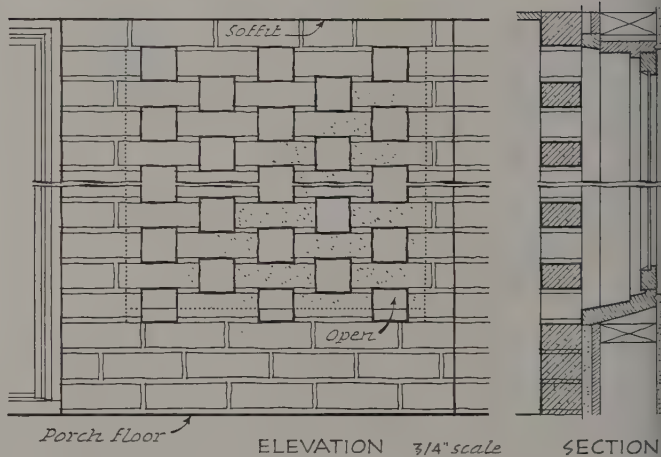
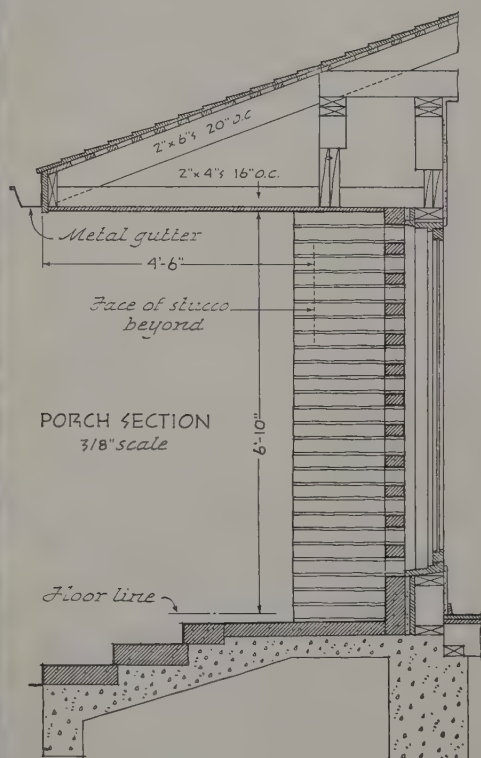
PLAN 1/4" scale



ANTONIN RAYMOND Architect



JULIUS SHULMAN



PAUL LÁSZLÓ . . . Designer

KITCHEN STORAGE REQUIREMENTS

Index No.
D3n
PLANNING

PENCIL POINTS DATA SHEETS PREPARED BY DON GRAF

CANNED GOODS

Lineal ft. of shelf
per 100 containers

Now
Stored

TIN CANS—No. 2½
9'-0"

TIN CANS—No. 10
28'-8"

PINT GLASS BOTTLES
9'-0"

JELLY GLASSES—Short
3'-2"

JELLY GLASSES—Tall
4'-10"

QUART and PINT JARS
19'-0"

HALF-GALLON JARS
20'-0"

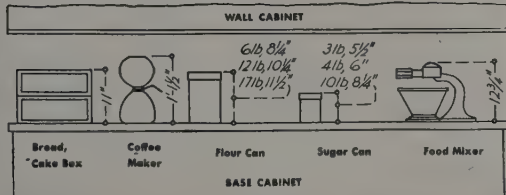
The amount of canned goods stored differs so with family habits that it is impossible to determine the amount of storage space needed. For rural families extra storage space must be provided outside the kitchen. On the basis of studies of shelf space needed for different sized containers and an Indiana study of the average amounts of canned goods stored by rural families, 63 feet of shelving 12" wide, with shelves 9" apart, is needed for home canned foods, and 14 feet, with shelves 12" to 18" apart, for food in tin cans. With a ceiling 7'-3" high this requires a wall space 9 to 10 feet wide; a closet 4' x 4' with shelves on 3 sides is adequate.

CLEANING SUPPLIES CLOSET should contain space for hanging brooms, mops, carpet sweeper, possibly ironing board, step-ladder, and table leaves. First shelf may be 67" above the floor.

MIN. SIZES FOR CLEANING CLOSETS

Articles Stored	Width	Depth
Cleaning supplies & equipment only	17"	14"
Cleaning supplies, ironing board	19"	16"
Cleaning supplies, ironing board, step-ladder	25"	21"
Cleaning supplies, ironing board, ladder, 4 table leaves	29"	21"

AVERAGE HEIGHTS OF ARTICLES STORED ON COUNTERS



STORAGE AREA IN KITCHEN CABINETS

Index No.
D3o
PLANNING

PENCIL POINTS DATA SHEETS PREPARED BY DON GRAF



Cabinet width (inches)	DESIRABLE MIN. COUNTER SPACE		STORAGE SPACE AVAILABLE		SQUARE FEET OF STORAGE SPACE AVAILABLE	
	URBAN FAMILIES No. of Persons	COUNTER LENGTH (Inches)	Storage space per ft. length (18" x 36")	URBAN FAMILIES No. of Persons	STORAGE SPACE AVAILABLE	SQUARE FEET OF STORAGE SPACE AVAILABLE
1. Wall cabinet a-3 reachable shelves b-4 reachable shelves	2 to 3 4 to 5 6 to 8	48 66 66 to 90	11.7 2.6 3.5	2 to 3 4 to 5 6 to 8	3.1 4.1 4.1	15 18 20
2. Base cabinet a-1 drawer & cupboard with 1 shelf b-2 drawers & cupboard, no shelf c-3 drawers d-4 drawers	2 to 3 4 to 5 6 to 8	48 66 66 to 90	11.7 2.6 3.5	2 to 3 4 to 5 6 to 8	3.1 4.1 4.1	15 18 20
Totals (1 & 2)						
1a and 2a						
1b and 2b						
1c and 2c						
1d and 2d						
1e and 2e						



Four months have passed since your Technical Personnel Adviser answered the call of PENCIL POINTS to come to Washington to represent the architectural men of the country who wanted to find useful places in the war effort. In this time it has become clear that the PENCIL POINTS Washington service was *greatly needed* and that it has been of *practical value* to both the architects and the Government.

Though it has now regrettably come to an end we can get some satisfaction from the thought that our activity took place at the most strategic time, when everything was in flux during the building and readjusting of the fighting forces, of industry, and of Government bureaus. Order now seems to be emerging and production is settling down to an efficient level. But the reshuffling goes on and we are told that during the coming eighteen months nearly 20,000,000 additional people will be drawn from peacetime pursuits into war production and service in the armed forces! It is obvious that many architectural men will find themselves among these 20,000,000.

Perhaps it is well at this time to summarize our work:

PHILIP GENDREAU

1 WE HAVE GIVEN INFORMATION AND ADVICE TO SCORES OF ARCHITECTS who came to Washington seeking Government work and have helped them to make proper contacts without waste of time. (In the case of confidential personal conferences with architects who came here, we asked each man to report back after making contacts to let us know the reaction of the Government representatives he encountered. This was a help both to the applicant and to this office.)

2 WE HAVE REPORTED PERIODICALLY ON OUR ACTIVITIES through the pages of PENCIL POINTS. We have pointed out the need for close cooperative relations

with the other technical planning professions; the need for the architect to take an active part in civic affairs—local, State, and Federal; the need for him to study and prepare himself for community planning programs; and other needs that have become obvious through close observation of trends in Washington.

3 WE HAVE CONSTANTLY TAKEN ADVANTAGE OF OUR CONTACTS with responsible officials to explain to them the skills and abilities of the architectural men (of which many had only a vague idea) and we have constantly argued that the architect's manifold skills make him adaptable to many

types of jobs that need to be done. We can say confidently that this missionary work has been extremely effective, though there are many officials who need further convincing.

4 WE HAVE CONTACTED KEY OFFICIALS in practically every Government agency and have discovered from each agency its needs for technical manpower. With this information in hand we have analyzed the records of over 4000 men filed with us and have selected the names of those who appeared best trained and qualified to do the required work. We have furnished these names and qualifications (totalling 2821 individuals) to the various agencies, which have followed through by getting in touch with the individuals. We have checked and rechecked with the agencies to insure that they keep these records active — always, however, keeping the original roster cards in

LIST OF GOVERNMENTAL AGENCIES with whom contacts and placements were made, introducing the names of more than 2800 men.

Approx. number of men for whom contacts were established

War Production Board	350
United States Civil Service (general)	500
Office of Price Administrator	100
Federal Public Housing Authority	284
Army Map Department	125
Civil Engineers Navy Reserves	107
Shipbuilding (through Civil Service)	
approx.	50
Various Architects offices	200
Bureau of Yards & Docks	100
Army Engineer Corps	225
(also Quartermaster Corps)	
Army Specialist Corps	200
Army Reserve Specialists	50
National Resources Planning Board	45
Federal Works Agency	50
Reconstruction Finance Corp.	40
(Defense Plant Corp.)	
Army Air Corps	8
Panama Canal Zone Comm.	30
Army Munitions	10
National Roster of Scientific and Specialized Personnel	50
Federal Housing Agency	12
Office of Civilian Defense	30
Division of Aviation, U. S. Marine Corps Res.	10
Maritime Commission—Bureau of Ships	55
Construction Contract Board*	
(For contact and help for Contract Awards)	
Bureau of Yards & Docks*	
(For assistance and to help for Contract Awards)	
U. S. Engineers Fort Belvoir, Va. (camouflage)	200

* THESE TWO DIVISIONS PLACED CONTRACTS WITH ARCHITECT-ENGINEERS AND EVIDENCED HELP THEREBY TO PERSONNEL OF THOSE ORGANIZATIONS.

the PENCIL POINTS Washington office.

Since we have been down here we have observed changes for the better in the handling of Government personnel work. The old system of clearing through Civil Service examinations slowed up appointments. Since the Civil Service has been increased in size and reorganized it has adopted the practice of using "unassembled" examinations for each specific job. More recently the new Form 57, Circular 332, is being used, whereon each applicant lists at least **four alternate occupations**. This may result in an applicant being called upon to do one of the alternate jobs instead of his first choice, but it increases fivefold his chances of being called upon.

Many architects who have filled out forms and questionnaires for one or another bureau have experienced delays in getting answers and are still awaiting placement. This situation is gradually being corrected. We have gratifying evidence of this in the form of many letters sent in by architects in appreciation of the assistance given and reporting advantageous placement either as civilian workers or in the uniformed forces.

The original four months for which PENCIL POINTS contracted with me to come here were up on July 15. In the event that this work should continue, I shall dedicate my whole time to this greatly needed activity. If, however, the work must come to an end at this point, I wish to go on record to the effect that PENCIL POINTS and the Reinhold Publishing Corporation have made a contribution of inestimable value to the war effort for Victory and toward the welfare of the architectural profession.

Those architects who are now in the armed forces, on land, on sea, or in the air, will get **valuable training in teamwork and coordination** with their associates, the engineers, which should result in a better understanding when they return to civil life. Each of the allied technical professions will, through its war experience, develop a greater appreciation for the others.

This work has increased my respect for the members of the architectural profession and has provided me with the material for many pleasant memories. The numerous letters of thanks so kindly mailed here in appreciation of my services during this four months' period in Washington were most helpful in encouraging me to carry on.

WILLIS A. VOGEL

A job well done!

In bringing to a close our WASHINGTON CAMPAIGN on behalf of architectural men throughout the country, we wish to pay a tribute to the man who went to the firing line for us as Technical Personnel Adviser, Willis A. Vogel, A.I.A. Both we and the architects in whose interests he worked for four months owe him a debt of gratitude that can never be repaid. He accepted this job in a spirit of dedication to the service of his profession and his country. At considerable personal sacrifice, he left his home in Toledo and came to the Nation's "working Capital" at a time of great congestion and confusion. Here he worked indefatigably day and night under conditions that were difficult and that must have been at many times discouraging.

Patiently and tenaciously Mr. Vogel built up and maintained a wide range of contacts with key officers of all the administrative departments of Government where architects might conceivably be found useful. He spent long evenings familiarizing himself with the card records of over 4,000 men who had registered with us. He ascertained the functional needs of each department or bureau, then analyzed the qualifications of the available men and selected for recommendation those most evidently fitted for each kind of work in demand. He furnished lists of qualified men to each bureau, following up frequently to see that the bureau carried out its part of the bargain by getting in touch with these men.

With every one of the hundreds of official contacts he made, he acted as a missionary to break down as far as possible the general lack of understanding and resistance to the employment of architects in Government positions. In each case he analyzed the architect's functions and pointed out how his technical training, his mental habits, his ability to coordinate, his knowledge of men and materials, fitted him to fill not only technical posts but a number of non-architectural positions as well. The value of this educational activity cannot be measured, but it has already borne fruit and its effect will continue for a long time.

In addition to all this, Mr. Vogel made himself extremely helpful to scores of architects and draftsmen who came to his office for advice and guidance in making contacts. He thus paved the way for many a man to secure effective employment in the Victory effort.

In carrying on this work he demonstrated conspicuous lack of self-seeking, at no time forgetting that he was there to represent his colleagues of the profession and not himself.

It is therefore extremely regrettable that, due to a tightening economic situation, this service could not be carried beyond the four months originally agreed upon. We offered to the State Associations an arrangement whereby we would bear one third of the expense provided they could raise the other two thirds. It proved impossible to raise the necessary funds. We have, however, the satisfaction of knowing that the four months' period covered was probably the most critical phase of the great conversion from a peace to a war economy. Furthermore, delegates to the recent A.I.A. meetings in Detroit voted overwhelmingly to instruct its Board of Directors to continue, under Institute auspices, the Washington activities heretofore carried on by Edmund Purves "and others"—the "others" referring to Mr. Vogel.

In spite of statements printed in this magazine from time to time during the course of our campaign, we have run across evidences that there still exists misunderstanding of the relation this activity has borne to that conducted by Mr. Purves at the Octagon House. We would like, therefore, to record briefly the history of the activity from its inception.

At the first of this year we foresaw that there would develop a shortage of private architectural commissions which could not be made up by Government and that at the same time the expansion of Government war activities would require an increasing supply of resourceful, technically-trained personnel. Architects not only wanted to serve, but had to live, and we therefore circulated to our entire mailing list a card questionnaire asking for the experience record of each man inter-

ested in finding a place in the Victory Program. OVER 4,000 RESPONDED.

Early in February we approached The American Institute of Architects, offering to provide an able, energetic man to go to Washington to supplement the work being carried on by Mr. Purves, who was already at the Octagon House. We suggested that the Institute might provide desk room at the Octagon House for this man to use as a headquarters and proposed that he should co-operate closely with Mr. Purves. At the same time we interviewed several mid-Western architects as to their willingness to undertake the work. This resulted in the selection of Mr. Vogel, who began operations in Washington on March 16.

Meanwhile President Shreve, of the A.I.A., after graciously acknowledging our offer and thanking us for our willingness to devote our resources to the betterment of conditions affecting the activities of the architects, referred our proposal to the consideration of the Board of Directors. They finally decided that the proposed arrangement, so far as it concerned desk space in the Octagon House, was impractical and so notified us on March 24. We thereupon rented office space at 1727 "K" Street, N.W., in Washington, for Mr. Vogel's headquarters.

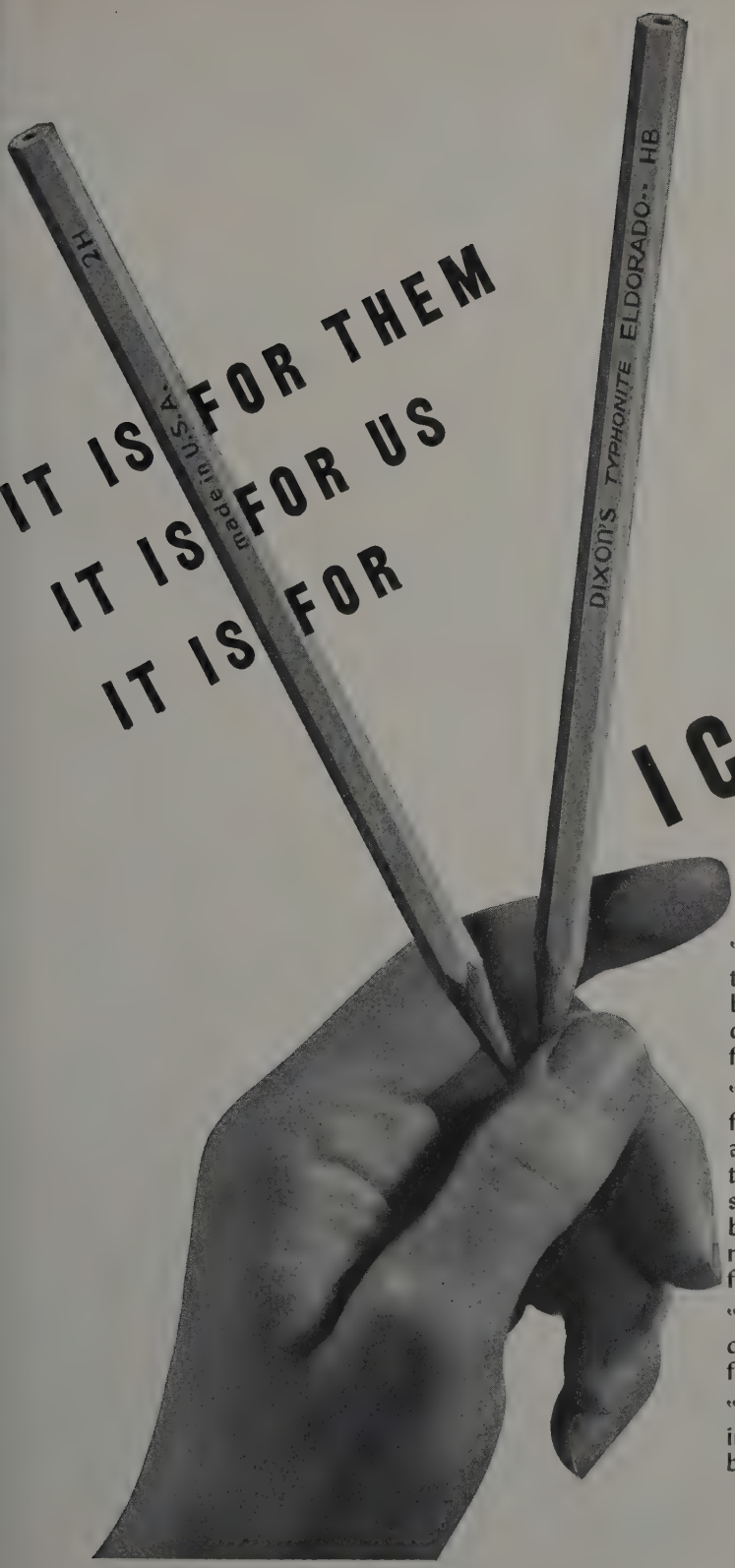
Since it was earnestly desired by all parties that overlapping of functions or conflicting activities be avoided, and since Mr. Purves was already ably representing the architects at legislative hearings and dealing with policy-making and administrative officials concerned with the award of Government contracts, Mr. Vogel confined his attention to the matter of establishing liaison between the salaried jobs that were open in both military and civil branches of Government and the men who were ready and anxious to fill them. He kept in close touch with Mr. Purves and there developed between them a spirit of friendly cooperation which continued to the end of their respective tenure of office.

At this writing the A.I.A. has not yet designated a man to take Mr. Purves' place, but President Shreve has informed us that the Institute will provide such a man at the earliest possible moment. It is understood that as a result of the vote taken at Detroit the new Institute representative will do everything possible for the profession and its members in regard to both representing them before the Government and its branches and facilitating contact between the several bureaus and the personnel they need. In this way he will continue, as well as may be, the activities of both Mr. Purves and Mr. Vogel.

All inquiries concerning sources of employment for members of the architectural profession should therefore be addressed from now on to the Octagon House, 1741 New York Avenue, N.W., Washington, D.C. Until the appointment of Mr. Purves' successor they should be directed to the attention of Mr. Edward C. Kemper, Executive Secretary of the Institute. *Thus, responsibility for assisting architectural men to contact sources of Federal Government work will be placed where it belongs—in the hands of the A.I.A.*

The Institute wishes to make clear that it will assume no responsibility for advancing individual claims for employment. It will, as heretofore, refrain from making direct recommendations of an individual for a specific job, but it will do everything it can to help *all members of the profession* to establish contact with the sources of government work.





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COMPETITION ANNOUNCEMENTS

\$500 FOR A NAME!

This is your last opportunity to send in your suggestion for a name for this magazine as it is now being published. The Publisher offers a \$500 United States War Bond as the prize, to be awarded on the basis of (1) the appropriateness of the name itself and (2) the soundness of the reason advanced for its selection by the contestant. In addition to being descriptive or suggestive of the type of magazine, it is desirable that the name shall be brief. Above all, it should be clearly associated with the field we serve—Architecture.

Conditions of the contest are reprinted here for the benefit of those who did not read them in the June issue.

What was originally conceived as "A Journal for the Drafting Room" has, under the pressure of changing times and needs, become a forward-looking technical magazine "Published for the Profession of Architecture." Its pub-

lishers now desire to determine the most appropriate name that can be found to accord with the new spirit of this publication as outlined in the Creed stated by the Editors in the May issue.

In the event that any contestant feels that the name PENCIL POINTS is the best possible name for the publication, he may so state, giving his supporting reasons, and his entry will be duly considered along with the others.

Names shall be written, typed, or lettered at the top of a sheet of white paper, 8 1/2" x 11". Below the name shall be written, typed, or lettered a statement of 200-300 words setting forth the reasons why the name suggested is considered appropriate. The sheet shall be identified only by a nom de guerre or device, but with each submission there must be a plain, opaque, sealed envelope within which is contained the true name and address of the contestant. The nom de guerre or device of the contestant shall be on the

outside of this envelope, which will be opened only after the award has been made. The whole shall be enclosed in another envelope addressed to NAME CONTEST, Room 1205, 330 West 42nd St., New York. This outer envelope may contain a return street or post office address, but no name. It must bear a post office cancellation stamp of Thursday, August 20, 1942, or earlier date. Entries not conforming to the foregoing rules will not be eligible for consideration by the jury.

The judges will be: Ralph Reinhold, President of Reinhold Publishing Corp.; Philip H. Hubbard, Vice President and Publishing Director; Kenneth Reid, Editor of THE NEW PENCIL POINTS; Charles Magruder, Managing Editor; and Don Graf, Technical Editor. The decision of the jury will be final. Public announcement of the winner will be made in the October issue of THE NEW PENCIL POINTS.

HYATT AWARD MEDAL

The John Wesley Hyatt Award Medal, to be awarded to the individual who makes the most significant achievement in the plastics industry, was recently completed by Paul Maniship, noted sculptor, for Hercules Powder Co., Wilmington, Delaware, donor of the award. The medal, to be cast in gold, will be awarded annually with \$1,000 in cash.

The obverse side bears a profile relief of John Wesley Hyatt, founder of plastics. The reverse bears a Grecian urn symbolizing the intellectual achievement of the winner, wheels symbolizing the mechanical ability necessary to form the plastic

in its ultimate shape, a chemical retort symbolizing the chemical origin of plastics, and dividers and triangle symbolizing plastics design.

The award will be administered by a committee consisting of Richard F. Bach, Dean of Education, Metropolitan Museum of Art; Dr. Lyman J. Briggs, Chief, National Bureau of Standards, Washington; Dr. Karl Taylor Compton, President, Massachusetts Institute of Technology; Watson Davis, Director, Science Service, Washington; Harry N. Holmes, President, American Chemical Society; Eric Hodgins, Publisher, Fortune magazine; Ronald Kinnear, President, Society of the Plastics Industry.

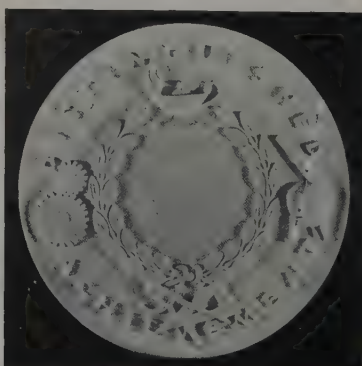
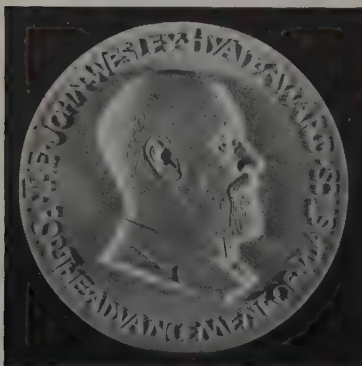
SCULPTURE AWARDS

Three sculptors—Robert C. Koepnick, Dayton Ohio; George Kratina, Brooklyn, N. Y.; and Suzanne Nicolas, New York—were chosen recently as finalists in a nation-wide sculpture competition for a monumental statue of "Christ, the Light of the World." The statue will form the main element in the architectural design of the facade of the new building, now completed, which will house the national headquarters of the National Catholic Welfare Conference in Washington, D. C.

Sixty-four sculptors submitted models. The three finalists have been asked to submit revisions of their original work. The winner, to be selected on the basis of the revisions, will receive \$1,500, a contract to make the finished bronze statue, and an additional \$6,000 fee for his work. The revised model considered second best will win second prize of \$500, and the third sculptor, together with four others already selected, will receive third prizes of \$200 each.

Members of the jury, appointed by The Liturgical Arts Society, of New York, which is conducting the competition, are Frederick Vernon Murphy and Barry Byrne, Architects; Lee Lawrie, C. Paul Jennewein, and Gaetano Cecere, Sculptors.

Obverse side (left) and reverse side of John Wesley Hyatt Medal



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Consider FINE TERRAZZO next time you design a floor . . . and specify Atlas White portland cement. It comes both plain and waterproofed. Turn to Sweet's Building File, Section 11/24, for more details and 24 true-color illustrations of FINE TERRAZZO, or write us for free book. Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Bldg., New York.

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Colors specified by Architect, J. Edwin Petersen, Miami, for this striking FINE TERRAZZO floor made with Atlas White cement were: Yellow Verona Marble; Verdolite Marble; Cardiff Green Marble; Domestic White Marble, all with coloring pigments. Terrazzo contractor, Southern Tile Co., Miami.

ATLAS WHITE CEMENT FOR FINE TERRAZZO



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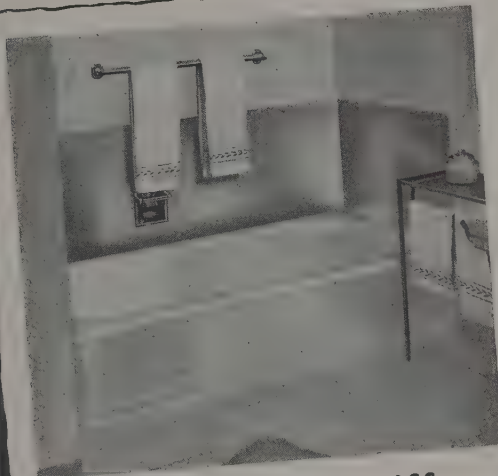
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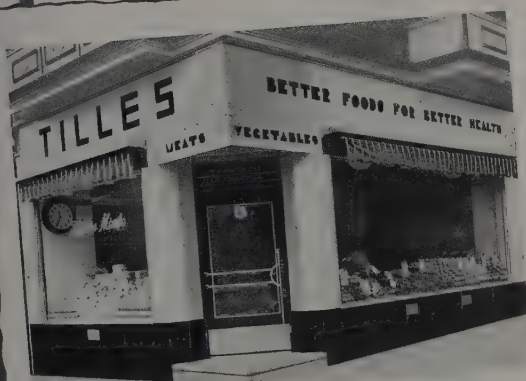
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BOOKS

INDUSTRIAL CAMOUFLAGE MANUAL: Pratt Institute, Brooklyn, N. Y., by Konrad F. Wittmann, A.I.A., in collaboration with the faculty. (\$4, 128 pages, 11 x 8 1/2 inches, 242 illustrations—Reinhold Publishing Corp., 330 West 42nd St., New York)

"Successful camouflage is never the result of tricks or mystification. Study of nature, repeated observation, and an ability to build three-dimensional effects are necessary premises for good camouflage work." Mr. Wittmann thus points out that *protective concealment of industrial areas has become a science involving the skills of artisans in many fields—architecture, physics, and landscape gardening as well as painting.* He further evaluates the advisability of concealing objects liable to aerial attack and analyzes the technical problems involved in the procedure. The information which he presents is a report of the Industrial Camouflage program carried out at Pratt Institute since September, 1940.

The manual is divided into four sections. The first discusses the nature of precision bombing and considers the general problem of protecting industrial units against it. The second presents the principles of industrial camouflage, together with the methods and materials for carrying them out. The third and fourth sections are devoted to demonstrations and examples of typical camouflage practice.

The text consists of short, direct statements. These are, in effect, captions for the large number of illustrations which comprise the manual. A small percentage of these illustrations are aerial photographs; the majority are diagrams and photographs of models. The material is arranged, for the most part, so that a single point is completely dealt with on each page. This arrangement of the manual, together with the convenient cylindrical plastic binding which permits the pages to be removed for bulletin board use, affords a practical source of reference for student and layman alike.

Anne P. Peabody

THE ARCH LECTURES, by Claude Bragdon (\$2, 239 pages 5"x8"—Creative Age Press, Inc., 11 E. 44th St., New York.)

Any publication by Claude Bragdon is viewed with interest by his friends and admirers, regardless of which of his *Lives** it reflects. "*The Arch Lectures*" is indubitably the work of a wise old man, one who has lived much, learned much, and burns with the desire to transmit his knowledge to others—particularly the young—to save them from the arduous process of learning.

In conception and plan this volume published under the *Creative Age Press* imprint, instead of Mr. Bragdon's usual aegis, is a series of lectures delivered to a group of young ladies during the

* "*More Lives Than One*" (Knopf, 1938)

winter of 1940. The subjects are varied—Education, Yoga, Fourth Dimension, Art, Architecture, Androgyne, Color-Music, Theater, etc. One finds here the quintessence of Bragdon. It is a potent and fragrant distillation. Long living with his ideas has made it easy for him to transmit them.

Bragdon's concept of Art and Architecture and its relation to the *Machine Age* is set forth from pages 84 to 115. There is the familiar statement of the value of functional products and the praise of Sullivan and American Modernism. These pages offer an excellent analysis of Modernism for the reference shelf. K.H.

HISTORIC HOUSES OF THE HUDSON VALLEY, by Harold Donaldson Eberlein and Cortlandt Van Dyke Hubbard (\$10.00, 208 pages, 9 1/2" x 12 1/2", photographs with text and maps—Architectural Book Publishing Company, New York)

TOWN AND DAVIS, ARCHITECTS—PIONEERS IN AMERICAN REVIVALIST ARCHITECTURE, by Roger Hale Newton (\$4.00, 334 pages, 6" x 9 1/2", illustrated, with photographs and plates—Columbia University Press, New York)

To our desk came this month the fruit of two researches into the past glories of American Architecture. Mr. Eberlein has chosen the pre-Revolutionary manor houses of the Hudson Valley; Mr. Newton the work of *Town and Davis*, a distinguished "first" Architectural partnership whose practice spanned the years 1829 to 1844.

Mr. Eberlein again follows the dull pattern that characterized his "*Portrait of a Colonial City*": the tale of land grants, the inter-relationship of families, difficulties with the Indians, and the military use of various of the houses during the Revolution. With notable exceptions the history of the houses is brought up to the present day. The photographic illustrations are copious but suffer from poor reproduction. Altogether a not-too-vivid picture of a region teeming with Architectural history and folk-lore. In later generations these Hudson River houses often were altered by the top-flight Architects of the day. Mr. Eberlein mentions some work by *Town and Davis*. Mr. Newton notes further work of this sort, along the Hudson, as well as new achievements in the later styles.

The research into the *Town and Davis* manuscripts and history has been profound and worthwhile. Against the Architectural background of the dawn of the Nineteenth Century, when

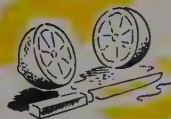
(Continued on page 102)

One of the many concealment projects described in Konrad A. Wittmann's book. Here, projecting roofs cover against not only vertical observation but also against recognition at lower angles



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BOOKS AND PERIODICALS

(Continued from page 100)

Ithiel Town was learning his trade in Boston. Mr. Newton traces the work of these two men separately, then enlarges upon their work together, which so brilliantly produced monuments that left their mark upon the American Scene for over half a century.

It is safe to conclude that Town and Davis not only ranked among the leaders of the Revival Movement but quite possibly were those leaders.

By refusing the term "Victorian" and by using the truer nomenclature of the Greek, Tuscan, and Gothic Revivals, Mr. Newton endeavors to demonstrate that this Architecture was satisfactory, an expression of its time, and worthy of present-day respect and preservation. He does help to clarify the sources of Architectural inspiration of the early 19th Century and discloses the demands made upon the "Architectural Composer" of that day.

Somehow, we can hardly call the appearance of these two volumes timely unless we accept them as *Lewis Mum-*

ford last year accepted the invitation to deliver the Dancy Lectures. Perhaps by recalling our earlier cultural background we Americans may be able better to understand what we now fight to preserve.
John C. Seward

ACOUSTICS OF BUILDINGS, by F. R. Watson (\$3.00, 167 pages, 6" x 9 1/4"—John Wiley & Sons, Inc., New York)

We wish we might have had this book when we were first exposed in school to the science of acoustics. We can also think of many other occasions in the intervening years when this book would have saved a lot of searching. The hundred-and-sixty-odd pages contain a higher concentration of nourishment than any other work on acoustics that we have ever seen. A very complete table of contents and a good arrangement of page headings throughout the book make reference a simple matter in spite of an extremely poor index. This book has a useful place in the technical reference section of every architectural library.
D. G.

PERIODICALS

ENGLAND

THE ARCHITECT'S JOURNAL

Three June issues of this magazine, received here despite the uncertainties of war, attest the courage of English architects. New work at Oxford, by *Hubert Worthington* (a new library and a block of garden buildings), is featured in the issue of June 25. Issues of the previous week and fortnight were devoted largely to discussions of housing developed by a group of architects headed by *G. A. Jellicoe*—severely plain houses that achieve dignity when grouped around greens or in staggered rows. These projects are representative of the seven schemes designed by Mr. Jellicoe for the Ministry of Supply—which believes in giving the Architect fullest responsibility.

ARCHITECTURAL DESIGN AND CONSTRUCTION

The June issue of this magazine also features one of the *Jellicoe* projects, illustrating the ingenuity of the architect in adapting a standardized scheme to sites of widely varied characteristics. Significant is the page devoted to the *174th Exhibition of the Royal Academy*, with the comment: "Most of the architecture exhibited is false, inorganic, and out of relation with modern life. This is typified in the banks, of which no fewer than seven are shown (including the Bank of England)."

(Continued on page 106)

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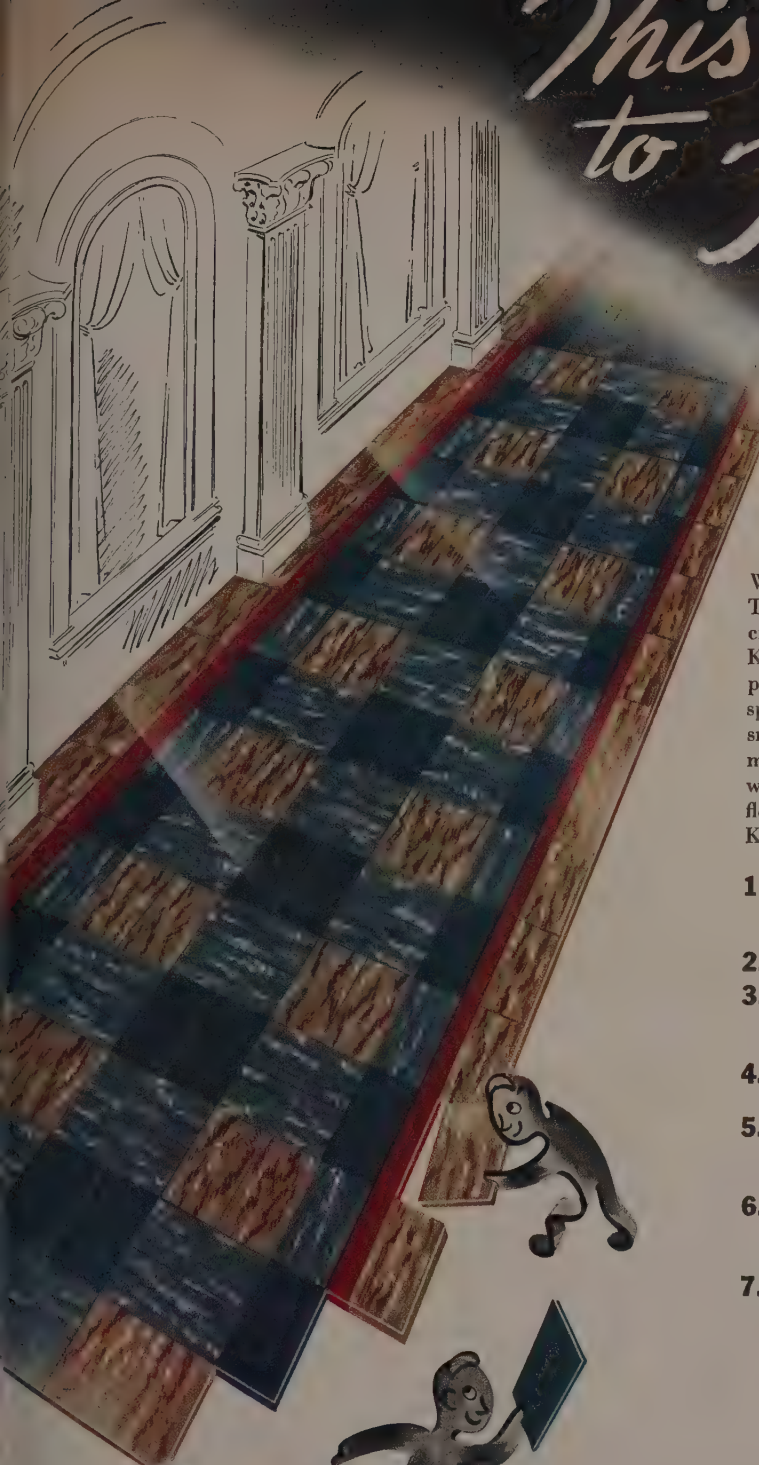


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Photograph shows four typical units set up, and space for another. The laboratory contains hundreds of them, all with Alberene Stone tops. Some units, such as the one in the background, are equipped with sinks. In addition to supplying this material, we dismantled Alberene Fume Hoods, long used in the Bell Telephone Laboratories in New York City, moved them to

Murray Hill, N. J., and reassembled them; additional proof of the lasting economy of Alberene Equipment.

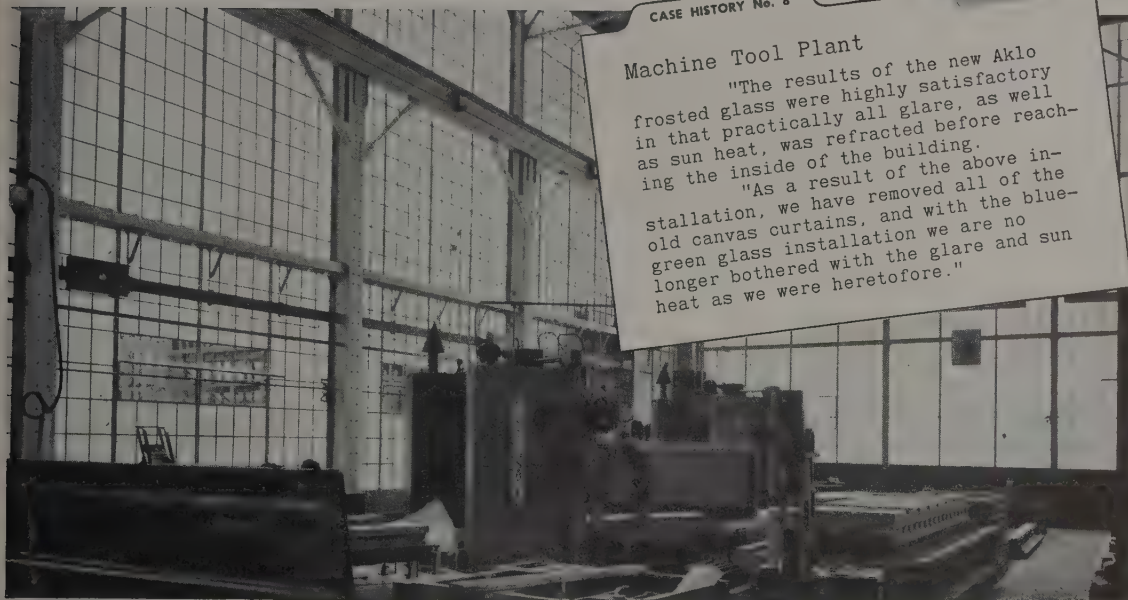
Despite the heavy demand for our material due to Industry's Victory Drive, ample stocks are available and shipments can be made promptly. Your inquiry will have immediate, executive attention.

ALBERENE STONE LABORATORY EQUIPMENT

ALBERENE STONE CORPORATION OF VIRGINIA, 419 FOURTH AVENUE, NEW YORK, N. Y.

Quarries and Mills at Schuyler, Virginia ★ Sales Offices in Principal Cities

NO LONGER BOTHERED BY GLARE AND SUN HEAT



CASE HISTORY No. 8

Machine Tool Plant

"The results of the new Aklo frosted glass were highly satisfactory in that practically all glare, as well as sun heat, was refracted before reaching the inside of the building.

"As a result of the above installation, we have removed all of the old canvas curtains, and with the blue-green glass installation we are no longer bothered with the glare and sun heat as we were heretofore."

Frosted Aklo Glass admits glareless Daylight, eliminates costly shades, keeps interiors Cooler



REDUCES GLARE—eliminates eye-strain and employee fatigue.

RETARDS SUN HEAT—keeps workers comfortable on their jobs.

RENDERS SAVINGS—eliminates shades or painting of glass.

From scores of plants come enthusiastic reports on Frosted AKLO glass installations. By reducing eyestraining glare, this scientific diffusing glass helps employees do more and better work. Errors are eliminated, production speeded up. Costly shades or bothersome painting of glass are eliminated.

By absorbing most of the sun's heat—about 97½% of the infra-red rays—Aklo keeps factory interiors cooler in summer. This is doubly important where precision work must be held to close tolerances. Operating costs are substantially reduced in air-conditioned areas.

AKLO glass is manufactured by Blue Ridge Glass Corporation, Kingsport, Tenn., and sold by Libbey-Owens-Ford through leading glass distributors. It is available in hammered and ribbed pattern, both wired and unwired. For full information, write Blue Ridge Sales Division, Room 1273, Libbey-Owens-Ford Glass Company, Toledo, Ohio.

BLUE RIDGE AKLO GLASS

Heat-Absorbing • Glare-Reducing • Figured and Wire Glass



(Continued from page 102)

ARGENTINE

REVISTA DE ARQUITECTURA

An interesting cross-section of "architecture-to-come," as well as present-day architecture in Argentina, is offered in the January issue of this magazine: since prizewinners of the third "Salon Nacional de Arquitectura" are fea-

tured, with a supplementary presentation of urban and rural construction. Subjects of the prize drawings range from a student hostel to an open air theater.

CANADA

JOURNAL OF THE ROYAL INSTITUTE OF CANADA

Efforts in Canada to crystallize sentiment for post-war planning—and a sensible approach to war-time design, rather than hasty production of bad projects—are reflected in the June issue

of this Journal, featuring "Site Planning for Wartime Housing," by *W. L. Somerville*, and "Immediate Planning Needed for Post-War Rehabilitation," by *A. S. Mathers*. The latter is supported by the Journal's editorial, which points out that those who fail to recognize the responsibility of planning for the future may be acting unconsciously as Fifth Columnists for the Peace.

UNITED STATES

INTERIORS

A 5-room "House of 36 Parts," designed by *A. Lawrence Kocher* of Black Mountain College (with Revere Copper and Brass, Inc., as sponsor) to be factory-built and sold for \$2000 after the war, strikes a keynote in the July issue of this magazine. Furniture suitable for such a house also is shown—most of it designed by *Dan Cooper*, *C. Coggeshall*, and *Freda Diamond*. In the same issue we find a discussion of "The Open-faced Shop," by *Morris Ketchum, Jr.*, another Architect whose work is known to our readers. Primarily for decorators are the articles on recent work of *Virginia Conner*, *Simank-Searcy*, and *William Pahlmann*.

ARCHITECT AND ENGINEER

Work of the *Office of Roi L. Morin* in the past decade was drawn upon by "the Boss" when he wrote his brisk self-appraisal for the June issue of this magazine under the title, "How's Your Second Floor Plan?" The examples shown are principally residential work. This is the last article of its particular type scheduled by ARCHITECT AND ENGINEER, which will now turn all its attention to post-war housing: a decision presaged by two articles in the June issue: "The Era Of Total War," by *J. S. Knowlson*, and "Housing in the War Program," a radio talk by *Wells I. Bennett*.

CALIFORNIA ARTS & ARCHITECTURE

Evidence that the contemporary residential style developed in California is integrated with the way Californians live and their cultural interests is given monthly by this magazine. In its June issue, pleasant small houses designed by *John Lautner*, by *Rodney Walker*, by *John I. Matthias*, and by *Raphael S. Soriano* are casually presented next to articles on music, psychology, crafts, and modern furniture!



War jobs demand speed with accuracy
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Those blueprints whirling through the machine must be sharp and clear—or else! Mistakes on war jobs can be as bad as sabotage—why risk them by using inferior tracing cloths? Arkwright's superb, uniform, closely-woven finish is your best protection. It assures perfect jobs—now and for years to come. Give your men this inexpensive aid to better work. Arkwright-Finishing Company, Providence, R. I.



Arkwright TRACING CLOTHS
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CAST IRON GOES HIGH HAT

...TO SAVE CRITICAL MATERIALS

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of design, workmanship and performance ...



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LIFE SAVER!



THAT GOOD OLD GRAY
CAST IRON BODY CAN
SURE TAKE A LOT OF
PUNISHMENT



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No. 17-D

WHEN YOU ORDER
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Hoffman No. 17-D Trap is built not only to operate efficiently, but to *last*! Body and cap are of fine quality gray cast iron. Note the Thermal Element—not two but *four* non-corrosive Adnic diaphragms, full of spring, long-lived under countless flexings and high temperatures. The Pin is of tough special alloy—and the entire thermal assembly can be renewed.

That goes for the Seat, as well. If long use should cause wear at this point, simply unscrew the Seat and insert a new one. To all practical purposes, you'll have a new trap at minor expense. Other specifications: $\frac{1}{2}'' \times \frac{1}{2}''$ connections, with left hand thread on inlet, operating pressure 15 lbs. and capacity 200 sq. ft. E.D.R.

Use the No. 17-D Trap for emergency repairs under the terms of Government Order P-84. And, of course, on direct war work, U. S. Government buildings, barracks, hospitals, defense plants, etc. For further information, write the Hoffman Specialty Company, Dept. PP-8, 1001 York St., Indianapolis, Indiana.

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are sold everywhere by leading wholesalers
of Heating and Plumbing equipment.*



AT

National Biscuit Company, Atlanta



Photo, courtesy of G. H. Tennant Co., Minneapolis
Louis Wirsching, New York City, Architect

... 481,000 Feet of Spotless Maple Flooring

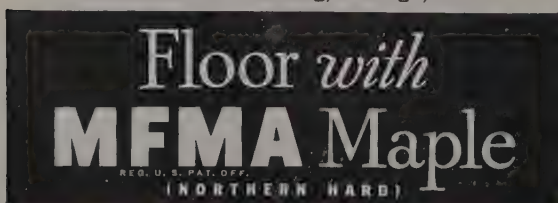
In its new Atlanta bakery, National Biscuit Company has assembled every aid to sanitary, uniform baking—including Maple Floors.

The bakers of "Ritz" know Hard Maple is easy to clean, because it's so compact and *smooth*. Its remarkably tight grain and tough fibre *retain* that smoothness through the years, and give it infinite capacity for taking punishment from loaded trucks and other traffic.

For employees, Maple's warm, resilient comfort retards fatigue, and its spic-and-span surface is a constant reminder of company standards of sanitation.

... Always, with Maple Floors, food plants foster cleanliness and better production—*decrease* upkeep, maintenance, and floor costs. For conversion of plants—re-floor with Maple.

MAPLE FLOORING MANUFACTURERS ASSOCIATION
1785 McCormick Building, Chicago, Illinois



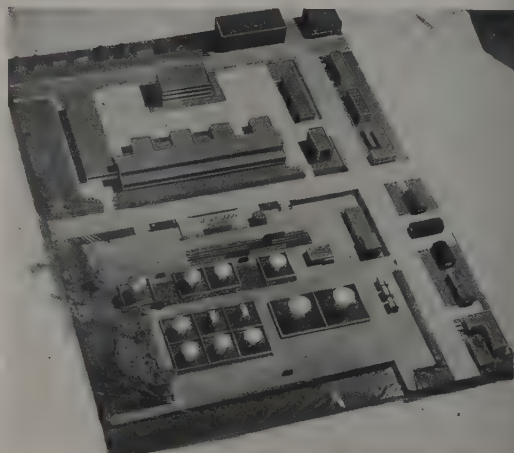
CRANBROOK SCHOLARSHIPS

The Cranbrook Academy of Arts, in Bloomfield Hills, Mich., realizing that advanced architectural students are going to be practically non-existent for *Eliel Saarinen's* department of architecture for the duration of the war, has announced that funds for a few scholarships will be awarded to mature and draft-exempt Architects who wish to study civic design under Mr. Saarinen's direction. Further information and details concerning the scholarships may be had from *Richard P. Raseman*, Executive Secretary of the Academy.

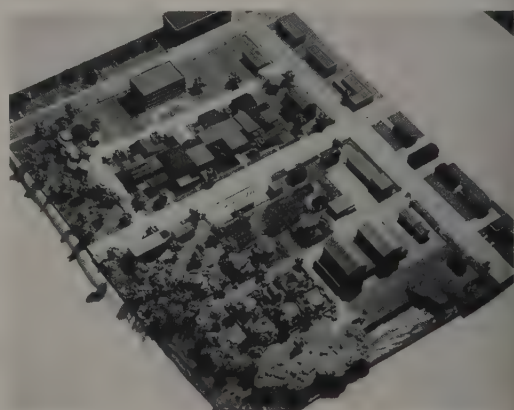
SKETCH EXHIBITION

The annual exhibition of summer sketches by members of the Architectural League of New York will be held in the Upstairs Gallery of the League, 115 E. 40th St., New York, beginning September 14. Works on display will include oils and water colors of landscape, figure, still life, and sculpture. Chairman of the exhibitions committee is *Lorimer Rich*.

CAMOUFLAGE WORK



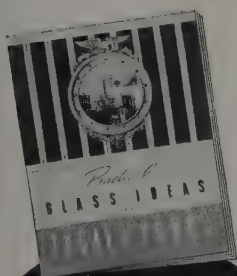
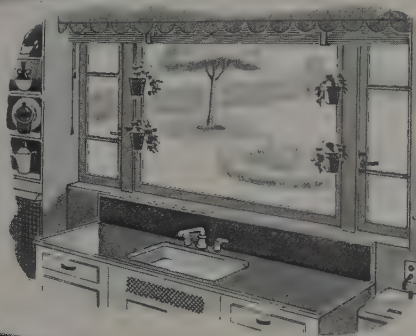
Architectural students at Syracuse University recently completed several projects in the protective concealment of typical military objectives from possible attack from the air. *Murray Hueber* worked on the storage tank area in the foreground, and *Robert Vergason* worked on the large factory area in the background. How well the two architectural students accomplished their tasks is evidenced in the before and after illustrations, shown above and below, respectively



How to make a home more modern today...

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LIBBEY·OWENS·FORD
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BOOK

Few avenues to home modernization remain practical or possible under today's conditions. That's one reason why more and more attention is being focused on remodeling with glass features. Glass is a noncritical material.

A more important reason, however, is the increased livability that comes from broader use of glass in the home. Larger window areas provide endless opportunities for brightening cheerless rooms. Practically every home is a potential prospect for window modernization. But in addition, scores of other modern comfort and utility features are made possible by the many different types of glass in the Libbey-Owens-Ford line.

These features are interestingly illustrated and described in a new consumer book we have just published. We think you'll be interested in the design and selling suggestions presented in this new publication just off the press. We will gladly forward a complimentary copy. Write Libbey-Owens-Ford Glass Company, 1229-A Nicholas Building, Toledo, Ohio.



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QUALITY *Flat Glass* PRODUCTS

Publications mentioned here are all 8½" x 11" unless otherwise specified, and will be sent free of charge, upon request. When writing for any of the literature noted here, please mention THE NEW PENCIL POINTS.

Lighting. Holophane lighting products for the aircraft industry. 10 sheets, plus six pages of appendix. Discussion of low bay lighting, high bay lighting, in-built units, and lighting for various departments in airplane production factory. 15 point-by-point charts. May, 1942. The Holophane Co., Inc., 342 Madison Ave., New York.

"Lighting for the War Industry," also published by the same firm, describes Holophane engineering methods and light controlling equipment for wartime use. Ten sheets, plus six pages of appendix give information on maintenance costs and technical data on a number of lighting units in the Holophane line.

Also published: May, 1942 issue of "Architexts." Deals with lighting environments and equipment specifications for operating rooms.

Concrete Hardener. 5½ x 8½, 16-page booklet, from L. Sonneborn Sons, Inc., 88 Lexington Ave., New York, discusses the research leading to the improvements in Lapidolith liquid concrete hardener.

Nickel Alloys. A 12-page catalog, from International Nickel Co., Inc., 67 Wall St., New York. Individual characteristics, applications, and average mechanical properties of the eight Inco nickel alloys.

Air Diffusers. Bulletin WF-13 (A.I.A. File No. 30J), June, 1942, 4 pages, discusses Model F high velocity ceiling type air diffuser.

Also published: Bulletin D15—Type DEE volume damper for application to all Dorex Kno-Draft high velocity ceiling type air diffusers. (A.I.A. File No. 30J, June, 1942, 4 pages.) W. B. Comor Engineering Corp., 114 E. 32nd St., New York.

Switchboard Instruments. Direct and alternating current indicating instruments for mounting on switchboards. 12-pages, Catalog 4220, June, 1942. Roller-Smith Co., Bethlehem, Pa.

Electrical Products. Engineering data book from National Electric Products Corp., Fulton Bldg., Pittsburgh, Pa., 352 pages, April, 1942. Feature: fittings, boxes, and accessories for each wiring system listed in one section. 13 pages of technical data.

Kick Plates. Standard push and kick plates made of Formica. 2-page sheet, May, 1942. Formica Insulation Co., 4614 Spring Grove Ave., Cincinnati, Ohio.

Steel Roof Decks. Steel floor forms, roof decks, acoustical ceilings, 8 pages of typical installation details. 24 pages, A.I.A. File No. 12-C, May, 1942. R. C. Mahon Co., Detroit, Mich.

Also published: 28-page catalog, A.I.A. File No. 16-D-1, on rolling steel doors and shutters.

Roofing Materials. General information on all types of Celotex roofs and roofing insulation. 20 pages, May, 1942. The Celotex Corp., 919 N. Michigan Ave., Chicago, Ill.

Color Ideas. New book on home decoration has many ideas on color planning and interior decorating.



Unique method of presentation allows architect to visualize effect of different color schemes on the same house. For each type of house (Cape Cod to California Mission and wartime housing designs) there is a wide range of exterior treatments, as well as interior color schemes for rooms, halls, closets, porches, and accessory features. The Glidden Co., 11001 Madison Ave., Cleveland, Ohio.

Unit Heaters. Gas-fired forced air unit heaters available in various sizes. 8 pages, L. J. Mueller Furnace Co., 2005 W. Oklahoma Ave., Milwaukee, Wis.

Ovens. Baking and roasting ovens for all types of installations. 29 sheets bound in loose-leaf-type catalog. G. S. Blodgett Co., Inc., 53 Maple St., Burlington, Vt.

Equalizing Damper. The Anemostat equalizing damper for equalization of one-sided air flow. 4-pages, Bulletin No. 16, April, 1942. Anemostat Corp. of America, 10 E. 39th St., New York.

Story of American Walnut. Tenth edition of this booklet from the American Walnut Manufacturers Association, Chicago. The 40-page catalog discusses, in 20 sections, the part American Walnut plays in the production of fine furniture and other products.

Paint. Comprehensive listing and description of the many paint and varnish products being used in war production and construction. Specifications, color chips. May, 1942. O'Brien Vanish Co., 101 N. Johnson St., South Bend, Ind.

Lighting. "Modern Lighting for Schools, Colleges, and Universities"—illustrated booklet describing how Tontine pyroxylin impregnated washable window shades keep out glare and let light in. Sections are devoted to manufacturing formulation and laboratory control of Tontine. May, 1942. E. I. duPont de Nemours & Co., Inc., Newburgh, N. Y.

Priorities. 16-page booklet explains priorities and how to understand and use them. 6" x 9", May, 1942. Manning, Maxwell & Moore, Inc., Bridgeport, Conn.

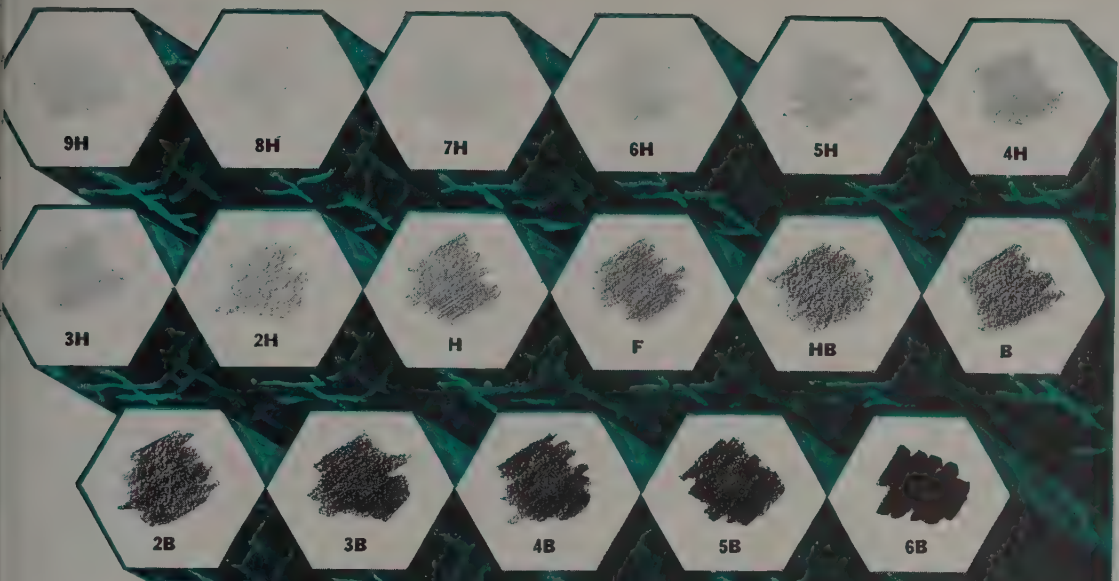
Conduit System. Two-color, 12-page Bulletin "S" on underground and overhead prefabricated unit and tile conduit system. Specifications, engineering details, tables of conduit capacities also included. June, 1942. Ric-wil Co., 1562 Union Commerce Bldg., Cleveland, Ohio.

Grading Wood. New edition pocket size, of "Standard Grading Rules" for Ponderosa Pine, Sugar Pine, Idaho White Pine, Lodgepole Pine, Larch-Douglas Fir, White Fir, Engelmann Spruce, Incense Cedar, and Red Cedar Lumber. July, 1942. Copies are 15 cents each. Western Pine Association, 510 Yeon Bldg., Portland, Oregon.

Folding Walls. New folder, 3¾ x 6½", 6 pages, from American Bowling & Billiard Corp., 50 W. 17th St., New York, on the Fairhurst patent Unifold folding wall and disappearing door wardrobe.

Steel Flooring. 4-page folder on open steel flooring and steps describes principle patterns of gratings and their applications, includes tabulation of safe loads for various sizes, weights, and lengths of this type of flooring. Kellogg Steel Flooring Co., 21 Mallor Ave., Jersey City, N. J.

(Continued on page 112)



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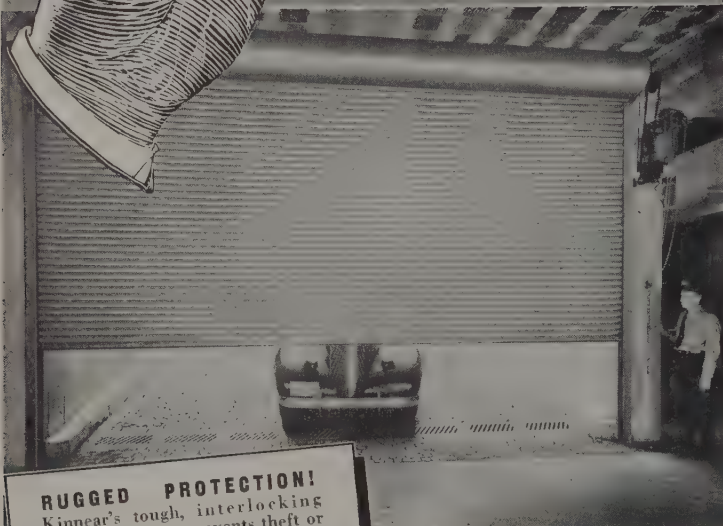
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RUGGED PROTECTION!

Kinnear's tough, interlocking slat construction prevents theft or intrusion, resists accidental damage, defies fire, wind and weather—and even closes light-tight for blackout safety!

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Extra savings in time and labor are gained when Kinnear Rolling Doors are equipped for smooth, rapid, dependable motor operation. And this permits the further advantage of remote control, with convenient push-button stations placed at any number of points.

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All floor, wall and ceiling space around each opening remains clear and usable at all times when Kinnear Rolling Doors are installed. Another score for Kinnear's famous cooling upward action!

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**SAVING WAYS
IN DOORWAYS**

**KINNEAR
ROLLING DOORS**

**MANUFACTURERS'
LITERATURE**

(Continued from page 110)

Ballasts. Bulletin 421-FL, 12 pages, June, 1942, from Jefferson Electric Co., Bellwood, Ill. Specifications, dimensions, wiring diagrams on single, two-lamp, and three-lamp ballasts for fluorescent lamps. Also, descriptions and illustrations of Jefferson fluorescent lamp switches.

Waterproofing. 12 page booklet, June, 1942, "How to Waterproof Concrete, Stucco, and Masonry," Medusa Portland Cement Co., 1000 Midland Bldg., Cleveland, Ohio. Booklet explains how lack of waterproofing causes water damage in buildings, various methods of waterproofing, and the advantages of integral waterproofing. Specifications for waterproofing included.

Heating. "Packaged" Oilbilt, a self-contained, oil-fired, steam generating unit with a guaranteed thermal efficiency of not less than 80%. Specifications, tables, layouts. 12 pages. Cleaver-Brooks Co., 5100 N. 33rd St., Milwaukee, Wisc.

Air Conditioning. Condensed, 12-page Catalog AC-152, covering air conditioning, refrigeration, space-heating equipment. April, 1942. Carrier Corp., Syracuse, N. Y.

Rubber Flooring. Typical installation of Wingfoot rubber flooring in hospitals, public buildings, schools, banks, clubs, other types of buildings. 12 pages. Goodyear Tire & Rubber Co., Inc., Akron, Ohio.

Blackout Ventilation. Bulletin No. 304, 4 pages, May, 1942, from Ilg Electric Ventilating Co., 2850 N. Crawford Ave., Chicago, features a typical solution of "blackout" ventilation engineered on the West Coast. Blackout hoods for ventilators are fabricated on the job.

Aluminum. A series of nine educational booklets on aluminum may be had from Aluminum Co. of America, Pittsburgh, Pa. The booklets, 5½ x 8½" in size, explain how to correctly use and work the metal, discuss processes and techniques involved. Titles: Machining Aluminum, Riveting Aluminum, Aluminum Casting Alloys, Aluminum and Its Alloys, Basic Information on Use of Aluminum in Aircraft, Finishes for Aluminum, Forming Aluminum, Welding Aluminum, Aluminum in the Chemical Industry.

(Continued on page 114)

For War Construction Wiring Supplies

See Your Neighbor THE G-E WIRING MATERIALS DISTRIBUTOR



A. Tuohey (left), Collins Electric Co., Springfield, Mass., showing G-E wiring devices to E. E. Fournier, salesman for General Electric Supply Corporation house, Springfield, Mass. Mr. Tuohey is handling wiring of 300-unit Chicoman housing project at Chicoman, Mass.

Friendly service is the backbone of G-E Wiring Materials Distributors' business. *One of these Distributors is located right in your own territory—a neighbor of yours.* Right now, this Distributor wants to co-operate with you in aiding U.S. war efforts in every way possible . . . give assistance in selection of materials . . . make wiring suggestions . . . provide prompt deliveries.

Talk with a representative of your G-E Wiring Materials Distributor about materials for war-worker housing, etc. Ask him questions about priority problems and about other wartime problems. *He'll be glad to help you.*

Remember too, that your G-E Wiring Materials Distributor handles a complete line of conduits, wires and cables, and wiring devices all made by one manufacturer. These G-E materials are high quality and are made to be used together.



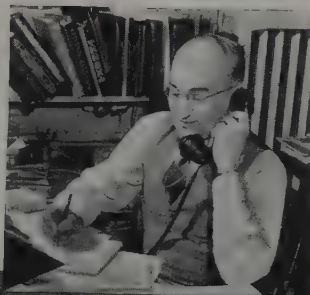
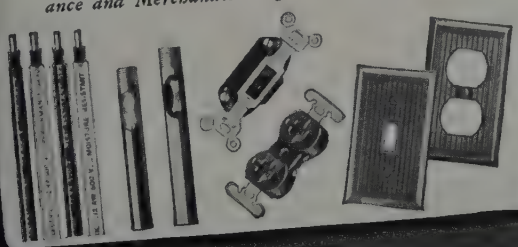
D. B. Chandler (left), president and manager of Mid-State Electric Company, Inc., G-E distributor, Lynchburg, Va., with A. E. Foster, stock clerk, is selecting suggested materials for wiring system in building extension. Service is speeded by helping customers pick suitable materials for buildings needed in war effort.



When R. A. Schaeffer (right) of the Schaeffer Electric Construction Co., Reading, Pa., needed surface wiring materials for speedy installation in temporary buildings, he asked C. J. Clay, salesman for the Reading General Electric Supply Corporation house for assistance. Mr. Clay helped him select suitable available materials.

SEE YOUR G-E DISTRIBUTOR

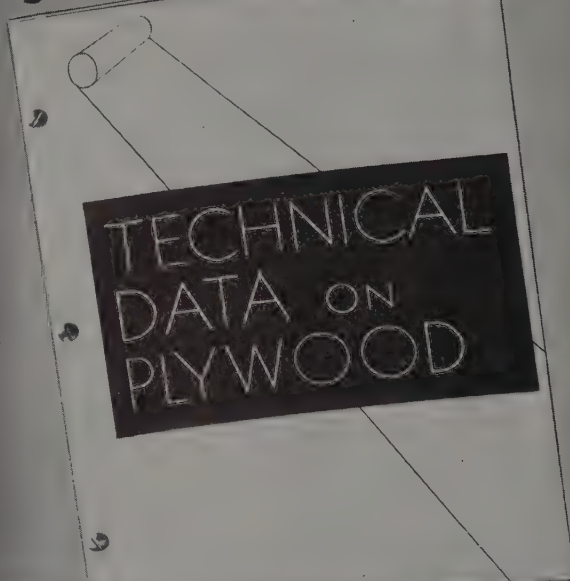
The nearest G-E wiring materials Distributor will be glad to give you information about G-E conduits, wires and cables, and wiring devices. He'll help you select materials particularly fitted to your wartime needs. General Electric Co., Appliance and Merchandise Dept., Bridgeport, Conn.



O. E. Frankenbush, vice president of the Hawkins Electric Co., Chicago, Ill., is famous for his use of the telephone in conducting business. He is in charge of all internal sales and handles practically all of his estimating and contracting over the telephone.

GENERAL  ELECTRIC

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This handbook also contains the new U. S. Commercial Standards for Douglas Fir Plywood, CS45-42, established in cooperation with the National Bureau of Standards. It describes the revised types and grades of Douglas Fir Plywood in detail and tells you how to use them.

Write now for your free copy of "Technical Data on Plywood." It is in loose-leaf form, and you will be sent additional chapters as they are published. Douglas Fir Plywood Association, Tacoma Bldg., Tacoma, Washington.

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Real Lumber
**MADE LARGER, LIGHTER
SPLIT-PROOF
STRONGER**

"A PRODUCT OF AMERICA'S ETERNALLY REPLENISHING FORESTS"

MANUFACTURERS' LITERATURE

(Continued from page 112)

Wood Sash Units. Manual A, 8 pages (A.I.A. File No. 19-E-11) from National Door Manufacturers Assn., Inc., 332 S. Michigan Ave., Chicago, Ill. Information on projected wood sash recently developed by Graham, Anderson, Probst & White Architects. Included: specifications, detail drawings for in-projecting and out-projecting types, various combinations of units.

Insulation. Dairy and ice cream plant insulation is discussed in the latest booklet in the Armstrong low temperature series. July, 1942, 8 pages. Included: design standards for cold room insulation, typical installations, insulation for cold lines. Armstrong Cork Co., Lancaster, Pa.

Print Making. 24-page booklet, 7 1/2 x 10", explains the Ozalid process of making dry-developed, positive-type whiteprints and the mechanical features of each model in the firm's line. July, 1942. Ozalid Products Division, Johnson City, N. Y.

Home Insulation. New 12-page catalog, July, 1942, from Armstrong Cork Co., Lancaster, Pa., describes the use of Temlok insulation for home use. A 4-page leaflet illustrates structural details and installation details of Temlok insulation.

Also published: 4-page folder on Armstrong hardboards — Temwood, Tempered Temwood, Temboard De Luxe, and Blocked Tempered Temwood—and its applications.

Wood Floor Finish. 6-page booklet shows recent applications of Minwax floor finish; 4-page specifications (A.I.A. File No. 25-C-11) for wood floor finishes for residential construction, school and industrial construction, and apartment construction, and for wood paneling and trim.

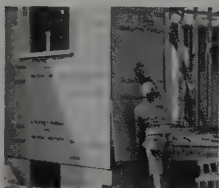
Plant Protection. 12-page brochure offers comprehensive analysis of blackout, air raid damage and glass splinter protection for industrial plants. Included: suggested installation methods for Ozite blackout and air raid safety blanket for protection against flying glass splinters. Clinton Carpet Co., Merchandise Mart, Chicago, Ill.

Floor Wiring. Electrical fittings and accessories to utilize the cells of Robertson Q-Floor as an electrical underfloor distribution system. 24 pages, March, 1942. General Electric Co., Bridgeport, Conn.

(Continued on page 116)

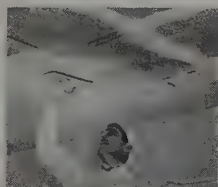
ARMSTRONG'S TEMLOK

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Lasting insulation efficiency plus adequate bracing strength.



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Combines dependable insulation with an excellent plaster base.



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Working model on display at Architects Samples Corporation, 101 Park Ave., New York, N. Y. See complete description in Sweet's Catalog. For literature, shop details and prices, write

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Miami, Florida

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MANUFACTURERS' LITERATURE

(Continued from page 114)

Light Protection. 8-page planning book, B-3085, May, 1942, from Westinghouse Electric & Mfg. Co., Edgewater Park, Cleveland, Ohio, discusses principles of protective lighting and a typical application of protective lighting in a manufacturing plant.

Maple. An 8-page catalog shows how hard maple may be used effectively for flooring and interior effects in a modern home. May, 1942. Information on laying and finishing maple floors also included. Maple Flooring Manufacturers Association, 322 S. Michigan Ave., Chicago, Ill.

Insulation. Vol. IV, No. 2 of PERFORMANCE, issued by National Mineral Wool Association, 1270 Sixth Ave., New York. Savings affected in war housing by the installation of thicker insulation. Four pages.

Telephone Booths. Four bulletins (Nos. 145, 146, 147, and 148) illustrate and describe the features of the doorless Acousti-Booth telephone booth made by Burgess Battery Co., Chicago, Ill.

Doors. Construction features of Color-Graded" doors are contained in an 8-page catalog, April, 1942, from Wheeler Osgood Sales Corp., Tacoma, Wash.

Sprinklers. 12-page reprint of the December, 1941 bulletin of Mather & Platt, Ltd., Manchester, England. Critical analysis of two years of operating efficiency of Grinnell automatic sprinklers under air raid conditions. Grinnell Co., Providence, R. I.

Architectural Woodwork. Installation data on the Silentite insulated window. 20 pages, May, 1942. Curtis Companies, Inc., Clinton, Iowa.

Also published: 16-page consumer's book on stock millwork units. Also: Catalog No. 504A, April, 1942. 32 pages on architectural woodwork for the small home. Includes entrances, windows, mantels, china closets, kitchen equipment.

(Continued on page 118)



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BECAUSE of the shortage of strategic cork and burlap, the Government has issued orders restricting the use of these materials in the manufacture of linoleum. Consequently, Armstrong is now making burlap-backed, cork-content linoleum for wartime uses only. The Army, Navy, Coast Guard, and Maritime Commission have first call on this material. Whatever remains goes into essential war construction that has been given a high priority rating.

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For your convenience, we are summing up the linoleum situation in the handy table below. Extra copies for pasting into your copy of *Sweet's*—are available upon request. Armstrong Cork Company, Floor Division, 1213 State Street, Lancaster, Pa.



	RESTRICTED USE	NONRESTRICTED USE	
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PLAIN (Battleship)	$\frac{3}{16}$ " and Heavy ($\frac{1}{8}$ ") Gauges in K-20 Brown, K-21 Evergreen, and K-25 Terra Cotta for Army, Navy, Coast Guard, or Maritime Commission only.		Selected colors in Heavy ($\frac{1}{8}$ ") and Standard ($\frac{5}{64}$ ") Gauges. "Super" felt backing.
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LINOWALL		Selected marble colors as usual.	
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ARMSTRONG'S LINOLEUM

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MANUFACTURERS' LITERATURE

(Continued from page 116)

Motor Controls. Catalog No. 9, May, 1942, from Arrow-Hart & Hegeman Electric Co., 103 Hawthorn St., Hartford, Conn., illustrates and describes manual and magnetic starters, other motor control accessories. 100 pages and 16-page price list.

Kalamein Doors. Service Sheet No. R1, 8 pages, opens into a 17" x 22" blue-print sheet. Includes specifications, frame and door sections, underwriters' and code requirements. A.I.A. File No. 16B, April, 1942. Richmond Fireproof Door Co., Richmond, Ind.

Water Systems. Manual on the selection, installation, and operation of home water systems. 24 pages, May, 1942. Fairbanks, Morse & Co., 600 S. Michigan Ave., Chicago, Ill.

Also published: 8-page booklet, A.I.A. File No. 31-H-3, on centrifugal ejector pumps for running water under pressure.

Lighting Specifications. New lighting manual (May, 1942) contains information on the best methods of using lighting economically and efficiently as part of the war production drive. 21 lighting problems are discussed. Benjamin Electric Mfg. Co., Des Plaines, Ill.

Air Circuit Breakers. Low-voltage air circuit breakers designed for use on A.C. circuits up to 600 volts, D.C. current circuits up to 750 volts. 12 pages, Catalog 2150, April, 1942. Roller-Smith Co., Bethlehem, Pa.

Woodwork. "Pointers on Care of Woodwork," a compilation of information concerning the proper care of woodwork. All commercial references eliminated. Ponderosa Pine Woodwork, 111 W. Washington St., Chicago, Ill.

Alloy Pipe. Tube-Loy water service pipe extruded from a patented lead alloy conserves strategic materials. 6-page folder, February, 1942, 3½ x 6¼". American Smelting & Refining Co., 120 Broadway, New York.

Sash Balances. Catalog 42, A.I.A. File No. 27-A-1, 32 pages, on unit sash balances for all types of installations. Blue-print type drawings show details. Pullman Mfg. Corp., Rochester, N. Y.

Wrought Iron. 28-page technical bulletin, "Wrought Iron for Sewage Treatment and Disposal Installations," discusses corrosive conditions encountered in designing sewage disposal water lines, outfall line service, drainage lines, heating system returns. July, 1942. A. M. Byers Co., Pittsburgh, Pa.

Wood Windows. Dura-war windows, "the wood window with a steel window background," are described in a 12-page bulletin, June, 1942, from Truscon Steel Co., Youngstown, Ohio. Seven pages of details, sections. Specifications also included.

Plywood Data. First two chapters of an engineering handbook on Douglas Fir Plywood, "Technical Data on Plywood." Loose-leaf form, July, 1942. Additional chapters available as they are completed. Douglas Fir Plywood Association, Tacoma, Washington.

MANUFACTURERS DATA WANTED

Waldo J. Daussat, Senior Draftsman, 2923 Castiglione St., New Orleans, La. (Literature, samples, and data for complete A.I.A. file.)

E. Kenneth Fitzgerald, Architectural Draftsman, 2051 W. Grand Blvd., Detroit, Mich. (Data for complete A.I.A. file.)

Paul V. Long, Registered Architect, R.F.D. 2, Mechanicsburg, Pa. (Data for complete A.I.A. file.)

William O. Norris, Architectural Draftsman, 3023 Woodhome Ave., Baltimore, Md. (Data on tourist cabins.)

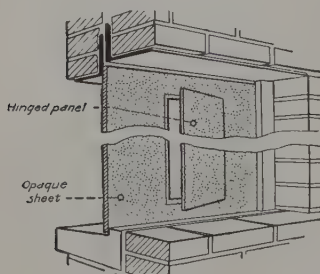
Alfonso A. Ragone, Architectural Engineering Draftsman, 45 Rambler Road, Staten Island, N. Y. (Complete data for A.I.A. file.)

Howard E. Smith, Engineering Draftsman, 9 John St., Worcester, Mass. (Data and samples for complete A.I.A. file.)

Gerald Osinoff, President, Architecture II, Pratt Institute, Brooklyn, N. Y. (Data for complete A.I.A. file for use of the class.)

Alvin D. Stentz, Civil Engineer, c/o Contractors, Pacific Naval Air Bases, Box 2459, Honolulu, T. H. (Wood and steel construction details.)

George Skrubbs, Architectural Student (University of Michigan), 124 Wenley House, Ann Arbor, Mich. (Data for complete A.I.A. file.)



HOW TO BLACK OUT CONSTRUCTION OPENINGS

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Set 21 of the Data Sheet Library (24 Data Sheets published in PENCIL POINTS from January to June, 1942) is now available, reprinted on ledger paper at 75c a set. These are crammed with data on Air Raid Protection, blackout methods, etc. — material digested from reliable sources for quick, authoritative reference. At left is a typical detail.

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Splinterproof Shelter.....F19a	Residential ARP.....F19i	Factory Blackout.....F19q
Splinterproof Shelter.....F19b	Residential ARP.....F19j	Factory Blackout.....F19r
ARP Requirements.....F19c	Principles of Blackout.....F19k	Light-locks.....F19s
Underground Shelters.....F19d	Blackout and Shades.....F19l	Light-locks.....F19t
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Technical assistance on concrete problems is available to designers and builders of all types of war construction. See Sweet's 4/45.

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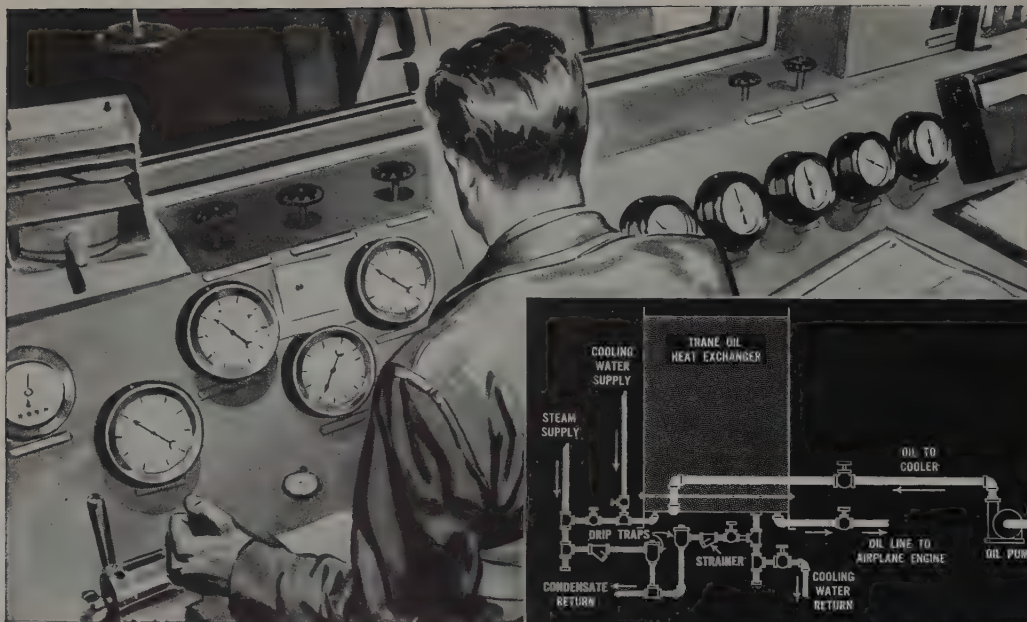
Dept. 8-25, 33 W. Grand Ave., Chicago, Ill.

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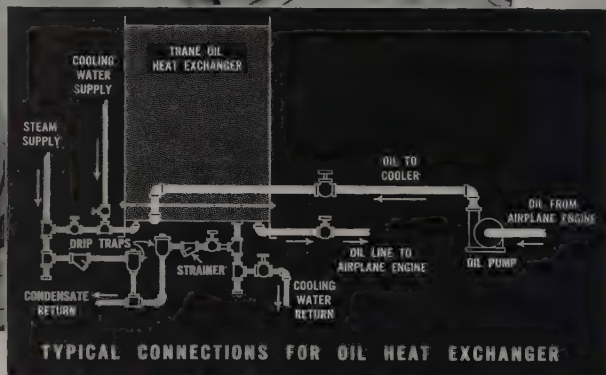
BUY WAR SAVINGS STAMPS AND BONDS

Among many concrete airport structures built or under construction is the administration building, Municipal Airport, Jacksonville, Florida. Jefferson D. Powell, architect; Walter G. Daniel, assistant city engineer.



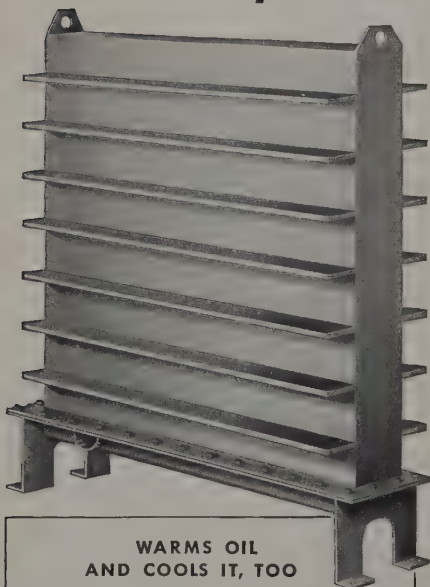


Showing piping connections which make it possible to use the Exchanger for warming oil as well as cooling it.



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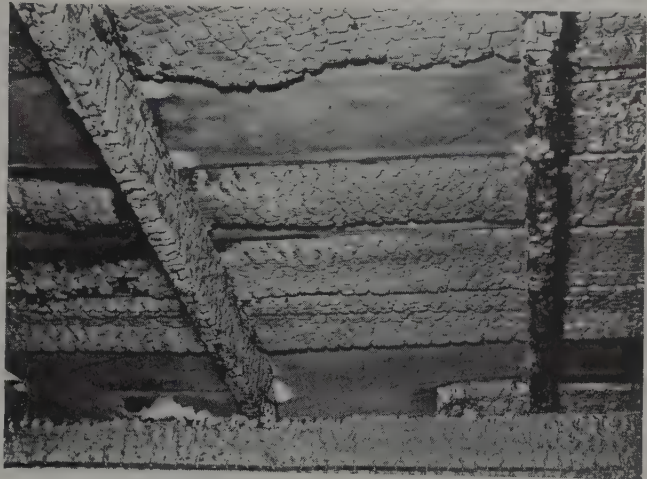
Against Outside Fires! ➡

When fire broke out in a two-story laundry in a large midwestern city, the building was completely destroyed, as you can see from the ruins in the background of the photograph at the right. The building next door in the foreground of the photograph, a bank, was subjected to intense heat and burning embers from the blaze. Under the shower of burning brands, the tile coping on the bank's roof was cracked. But the flaming embers that fell on the roof flickered out harmlessly . . . *unable to pass the barrier of the Johns-Manville ASBESTOS Roof!*



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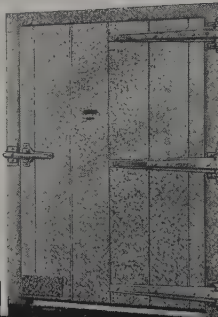
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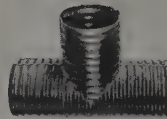
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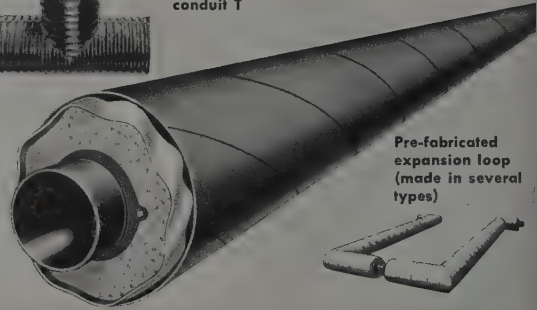
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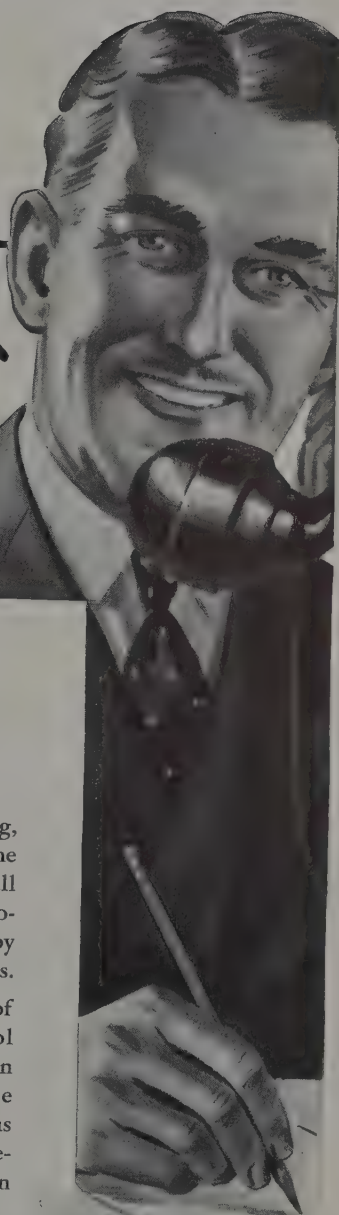
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And that goes for what they do for us off duty, too! Take this new clubhouse we got just outside of camp. It's got radios, dance floors, nice soft chairs and everything. And, Pop, you can get something to eat that won't cost you a month's pay!

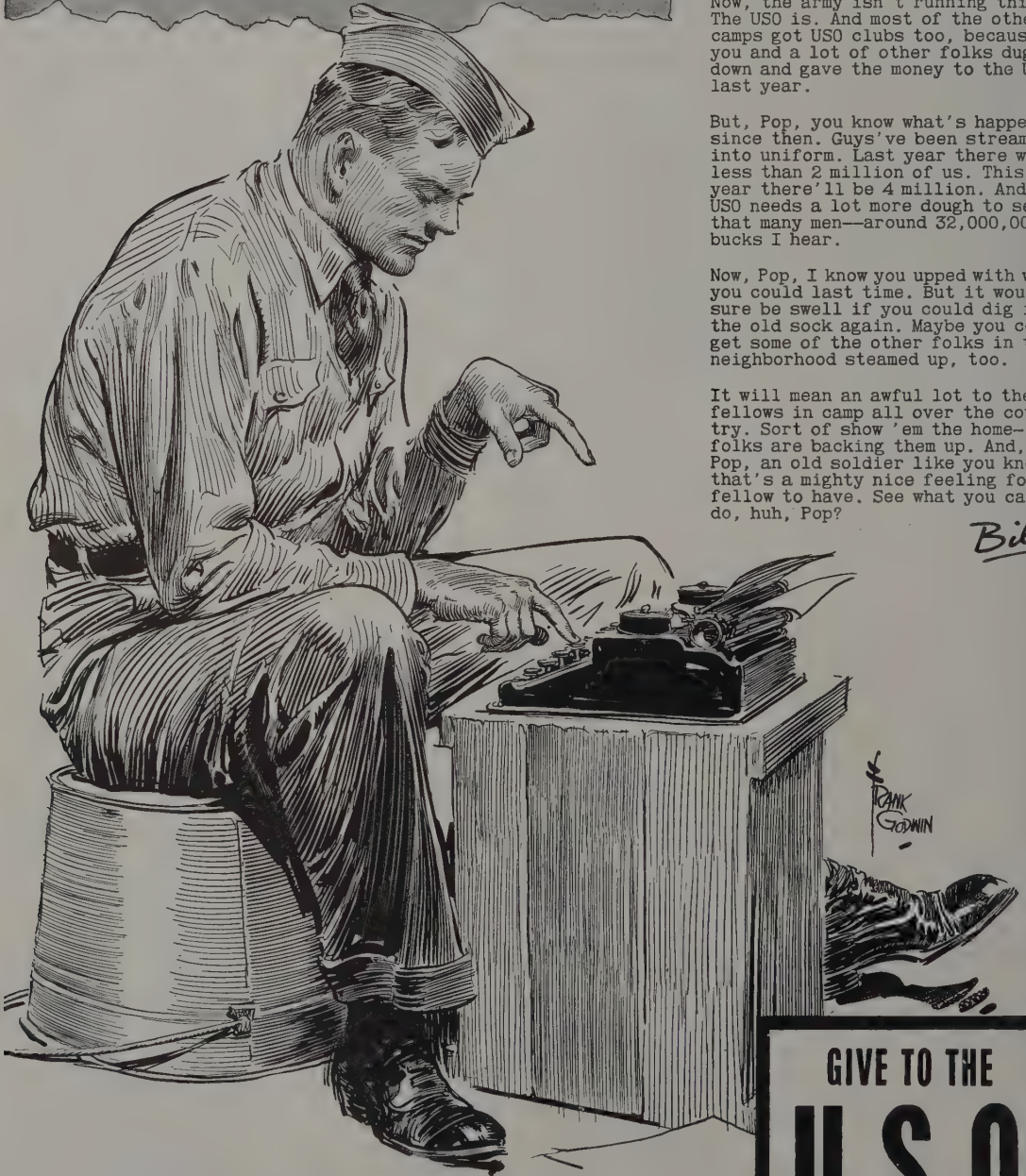
Now, the army isn't running this. The USO is. And most of the other camps got USO clubs too, because you and a lot of other folks dug down and gave the money to the USO last year.

But, Pop, you know what's happened since then. Guys've been streaming into uniform. Last year there was less than 2 million of us. This year there'll be 4 million. And the USO needs a lot more dough to serve that many men—around 32,000,000 bucks I hear.

Now, Pop, I know you upped with what you could last time. But it would sure be swell if you could dig into the old sock again. Maybe you could get some of the other folks in the neighborhood steamed up, too.

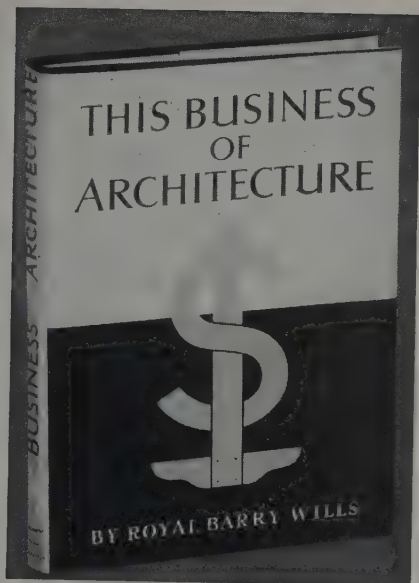
It will mean an awful lot to the fellows in camp all over the country. Sort of show 'em the home-folks are backing them up. And, Pop, an old soldier like you knows that's a mighty nice feeling for a fellow to have. See what you can do, huh, Pop?

Bill



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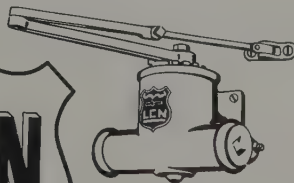
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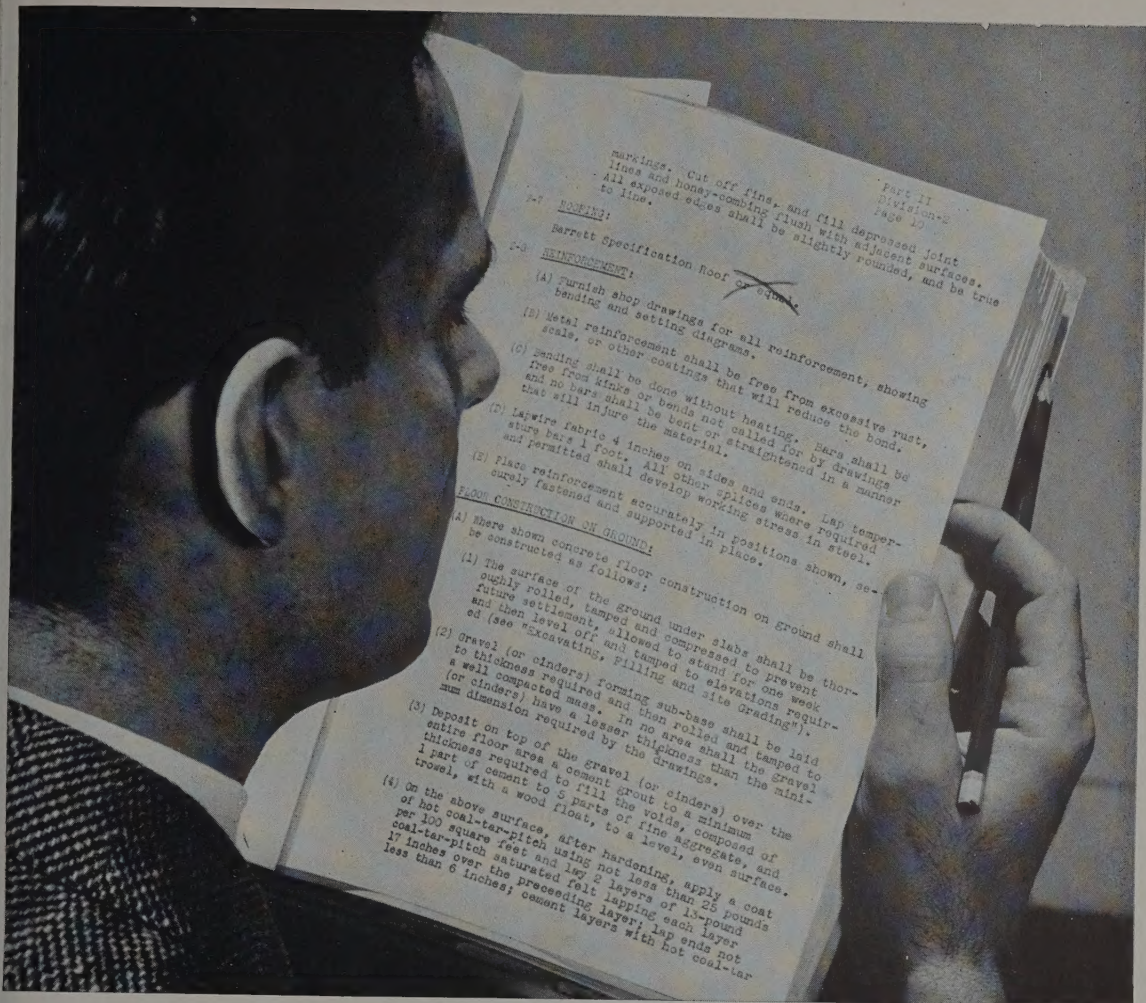
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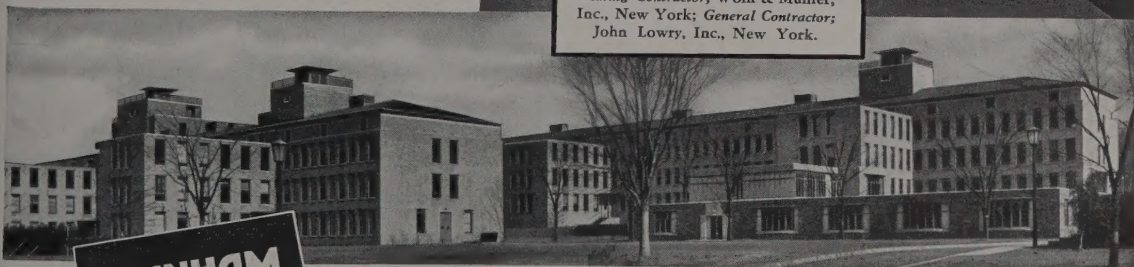
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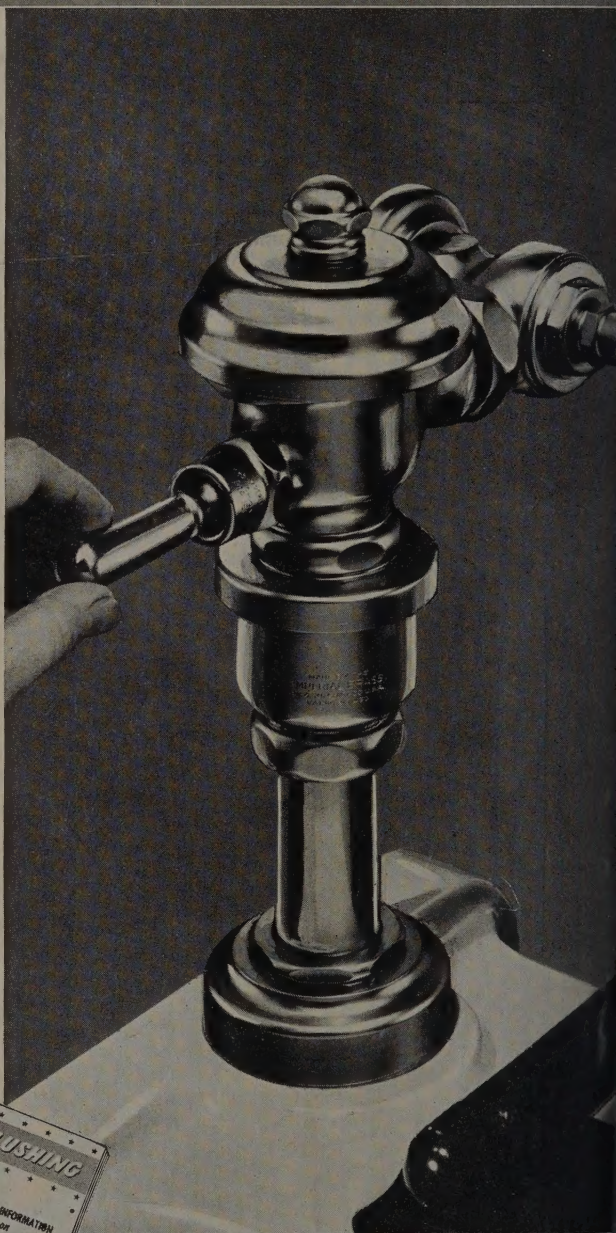
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